

DECEMBER 2021

Transit Strategic Plan FY2023 – FY2032



Acknowledgements

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Transit Strategic Plan Overview

The Transit Strategic Plan (TSP) is a “living document.” It serves as the 10-year blueprint for implementing better transit across the region’s core area that is served by Hampton Roads Transit (HRT). It is updated annually and will undergo a major update every five years. These updates are important to support flexibility for HRT and its partners to make the best use of available resources and to continuously improve and adapt to changes in customer demand and in the mobility marketplace.

This is the second annual TSP update. Since HRT’s inaugural TSP (developed between 2019 and 2020 and adopted in June 2020), and its first minor annual update (adopted in March 2021), the COVID-19 pandemic has impacted HRT and the communities it serves. The unexpected COVID-19 public health crisis, discussed more in Chapter 1, has been a major disrupter. HRT has activated a multi-year strategy beginning with immediate actions, with the help of emergency funding from state and federal partners and the support of its Board, to quickly adapt to new conditions while remaining focused on accomplishing its day-to-day mission and positioning the agency for a safe and sustainable future.

From March 31 to June 14, 2020, HRT implemented an Essential Service Plan which provided reduced levels of service because of the COVID-19 pandemic. Fares were free from March 31 to July 1, 2020. Regular levels of service were operated from June 14, 2020 through May 8, 2021. On May 9, 2021 HRT began the Service Reliability Plan because of reduced operator availability due to the COVID-19 pandemic. The Service Reliability Plan is designed to match the level of service to operator availability so reliable service can be delivered with fewer missed trips. The Essential Service Plan and Service Reliability Plan service data are not reflected in the service data in the TSP since they are temporary changes of service.

The new—and long worked for—accomplishment of regional transit funding for HRT is also a game changer. Virginia Governor Ralph S. Northam was joined by lawmakers, mayors, HRT employees and Commissioners, and special guests from across Hampton Roads for a ceremonial bill-signing on Friday, September 18, 2020. For the first time ever, HRT has regional funding to support a core network of routes with consistent and reliable service. Chapter 6, the Hampton Roads Regional Transit Program, documents how investments will be made with this fund (the Hampton Roads Regional Transit Fund) to significantly improve transit along the busiest corridors of HRT’s service area. This TSP update contains the phased services and related capital projects that comprise the Program.



The improvements to these corridors listed in the TSP are consistent with the purposes and requirements outlined in the legislation that authorizes the Hampton Roads Regional Transit Program and Fund, and the documented Program also aligns with the service planning principles and framework detailed in Chapter 1. This includes top regional priorities of providing more reliable inter-jurisdictional bus service, with priority on more service frequency during hours of the day that most commuters are traveling between work and home, in addition to new investments in technology and customer amenities that will significantly improve the customer experience and the effectiveness of regional transit operations.

Hampton Roads' ability to thrive depends significantly on having a well-performing transportation system, including public transportation. Residents throughout the region deserve access to safe, reliable, and affordable transportation options. Implementing better transit will more effectively connect communities and businesses across the region, improving access to jobs, healthcare, retail and recreation, and education and workforce training opportunities. New connections, better reliability, and more convenient and faster commutes will be achieved as service improvements are made.

It is unmistakable: a new day is dawning for public transportation in Hampton Roads as HRT embarks on its third decade serving the region. The next 10 years will surely be exciting and filled with new challenges and opportunities. As the agency's Mission and Vision make clear, HRT stands ready to serve as *"a progressive mobility agency that promotes prosperity across Hampton Roads through collaboration and teamwork"* and *"to connect Hampton Roads with transportation solutions that are reliable, safe, efficient, and sustainable."*

Table of Contents

Glossary

Chapter 1: System Overview and Strategic Vision

Chapter 2: System Performance and Operations Analysis

Chapter 3: Planned Improvements and Modifications

Chapter 4: Implementation Plan

Chapter 5: Financial Plan

Chapter 6: Hampton Roads Regional Transit Program

Appendix A: Agency Profile and System Overview

Appendix B: Phased System Maps

Appendix C: Estimated Ridership Methodology and Results

Appendix D: On-Demand (Microtransit) Services

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Glossary

757 Express: “757 Express” is the branded name for the Regional Transit System, which consists of Regional Backbone, Metro Area Express, and Peninsula Commuter Service routes.

Bayfront Shuttle: The Bayfront Shuttle is a seasonal route (Route 35) that operates in the beachfront community in Virginia Beach.

Capital Improvement Plan: HRT’s Capital Improvement Plan (CIP) is a detailed 10-year plan for capital improvements, which is updated annually.

Coverage Routes: Coverage routes are a service classification for routes that provide communities with lower transit demand, but with still enough demand to warrant fixed-route service. These routes will be connected to Local Priority and Regional Backbone routes and will mostly operate within one jurisdiction but can cross jurisdictional boundaries.

Elizabeth River Ferry: The Elizabeth River Ferry provides public ferry service between Portsmouth, at the North Landing and High Street Landing Ferry Docks, and downtown Norfolk, at the Waterside Landing Ferry Dock. Between April and September, the ferry also provides service to the Harbor Park Ferry Dock for gameday service to Tide baseball games.

Facility Asset Management Plan: HRT’s Facility Asset Management Plan and Passenger Amenities Policy outlines procedures for the installation, maintenance, and replacement of passenger facilities and amenities.

Hampton Roads Regional Transit Fund: The Hampton Roads Regional Transit Fund is the funding tool aligned with the Hampton Roads Regional Transit Program that shall be used for *“the development, maintenance, improvement, and operation of a core and connected regional network of transit routes and related infrastructure, rolling stock, and support facilities, to include the operation of a regional system of inter-jurisdictional high-frequency bus service, in a transportation district in Hampton Roads.”*¹

Hampton Roads Regional Transit Program: The Hampton Roads Regional Transit Program was established to define and supply resources for the development, operating, and capital needs for both expansion and state of good repair of reliable, high frequency regional transit operations.

Hampton Roads Transportation Accountability Commission: The Hampton Roads Transportation Accountability Commission (HRTAC) maintains and administers the Hampton Roads Regional Transit Fund.

Hampton Roads Transportation Planning Organization: The Hampton Roads Transportation Planning Organization (HRTPO) is the body created by the Hampton Roads localities and appropriate state and federal agencies to perform the duties of an MPO under the federal regulations.

Key Performance Indicator: A Key Performance Indicator (KPI) is a quantifiable measure used to evaluate the success of HRT transit services in meeting objectives for performance.

Limited/Express Routes: Limited/Express routes are a service classification for routes that provide bus service with limited stops connecting surrounding communities with downtown areas and other major employment sites or regional destinations, often via the interstates. Some routes will operate during peak-hour commuter service only. Limited/Express routes can operate within a jurisdiction or cross jurisdictional boundaries, providing express commuter connections to major employment destinations regionwide.

Local Priority Routes: Local Priority routes are a service classification for routes that operate along arterials serving a specific community area with connections to the Regional Backbone network.

¹ Code of Virginia § 33.2-2600.1 C.

Metro Area Express: Metro Area Express (MAX) routes are the Limited/Express services that provide express commuter connections to major employment destinations regionwide.

Non-Revenue Fleet: The fleet of HRT vehicles that support the operations and maintenance of in service vehicles and HRT facilities.

On-Demand / Demand Responsive Routes: On-demand or demand responsive services are a service classification that will operate in specified zones, connecting lower-density areas to local destinations and transfer opportunities to fixed-route service. These services can operate within a jurisdiction or cross jurisdictional boundaries. Another term for these service options is Microtransit.

Peak Period: Peak periods are the times of the weekday when HRT operates their maximum level of service. These periods happen on weekdays during the AM rush times, between 6:00 a.m. and 9:00 a.m., and the PM rush times, between 3:00 p.m. and 6:00 p.m.

Peak Vehicles: The number of transit vehicles necessary to operate the published service schedule during the peak period.

Peninsula Commuter Service: Peninsula Commuter Service (PCS) routes are the Limited/Express services that operate throughout the Peninsula and connect to the Newport News Shipyard.

Regional Backbone Routes: Regional Backbone routes are a service classification for routes that make up the backbone of the HRT system, providing high-frequency service with longer service spans throughout the region. These routes travel on the highest-demand corridors connecting the most people to the most jobs. Most Regional Backbone routes will cross jurisdictional boundaries.

Regional Transit System: The Regional Transit System is the network of services that define the operating side of the Hampton Roads Regional Transit Program.

Revenue Fleet: The fleet of HRT service vehicles that operate in service following the published HRT service schedules.

Revenue Hours: The measure of hours of HRT vehicles operating in service following the published HRT service schedules.

Revenue Miles: The measure of miles of HRT vehicles operating in service following the published HRT service schedules.

Service Area: The overall area wherein HRT provides transit service.

The Tide: The Tide is the light rail service operated by HRT between the EVCN/Fort Norfolk Station in Norfolk, and the Newtown Road Station at the boundary with Virginia Beach.

Transit Asset Management Plan: The Transit Asset Management Plan is a guide for HRT to maintain its assets in a state of good repair, as well as developing a timeline and process for replacing those assets that are past their useful lifespans.

Transit Strategic Plan: The Virginia General Assembly and the Virginia Department of Rail and Public Transit (DRPT) require that large public transportation agencies develop a ten-year Transit Strategic Plan (TSP) to ensure that services are planned in a way that meets the mobility needs of communities throughout the state.

Transportation Service Plan: The annual process under the Cost Allocation Agreement to develop the annual service plan and operating budget that HRT undergoes with each of the six member jurisdictions.

VB Wave Trolley: The VB Wave Trolley is a seasonal service operating in the beachfront community in Virginia Beach.

CHAPTER 1

System Overview and Strategic Vision

FY2023 – FY2032



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Contents

1. System Overview and Strategic Vision	1-1
1.1. System Overview.....	1-1
1.1.1. Services Provided and Areas Served	1-1
1.1.2. Current/Recent Initiatives.....	1-9
1.2. Strategic Plan.....	1-11
1.2.1. Vision and Mission Statements.....	1-11
1.2.2. Goals and Objectives.....	1-13
1.2.3. Service Provision Principles.....	1-15
1.2.4. Service Design Standards	1-18
1.2.5. Performance Standards	1-23

Tables

Table 1-1: HRT Fares.....	1-8
Table 1-2: Summary of Agency Initiatives	1-9
Table 1-3: Tradeoff Questions Asked	1-15
Table 1-4: Route Classification	1-20
Table 1-5: Service Headway by Route Classification	1-21
Table 1-6: Span of Service by Route Classification	1-22
Table 1-7: Performance Standard Groups and Key Performance Indicators.....	1-23
Table 1-8: Passengers per Revenue Hour Performance Standard.....	1-23
Table 1-9: Passengers per One-way Trip Performance Standard	1-24
Table 1-10: Farebox Recovery Performance Standard	1-24
Table 1-11: Subsidy per Passenger Boarding Performance Standard	1-25
Table 1-12: On-time Performance Standard	1-25
Table 1-13: Maximum Load Performance Standard.....	1-26
Table 1-14: Performance Categories for Service Effectiveness and Cost Efficiency KPIs, and Possible Corrective Actions.....	1-26
Table 1-15: Agency Objectives and Relevant Performance Measures	1-27

Figures

Figure 1-1: HRT Service Area.....	1-3
Figure 1-2: Existing Service – Southside.....	1-4
Figure 1-3: Existing Service – Peninsula	1-5
Figure 1-4: Existing Service – Light Rail	1-6
Figure 1-5: Existing Service – Ferry	1-7
Figure 1-6: Example of Tradeoff Activity from Small Group Meetings	1-16
Figure 1-7: Service Design Standards	1-18

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1. System Overview and Strategic Vision

1.1. System Overview

This chapter provides a high-level overview of Hampton Roads Transit and the agency's strategic priorities.

1.1.1. Services Provided and Areas Served

Hampton Roads Transit (HRT) serves a 432 square-mile area within the Hampton Roads region (**Figure 1-1**). HRT consists of six member cities: Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach, which have a combined population of about 1.35 million.¹ The service area is divided by the James River. The service area south of the river consists of Chesapeake, Norfolk, Portsmouth, and Virginia Beach, commonly referred to as the *Southside*. HRT's service area north of the James River includes the cities of Hampton and Newport News which, together with neighboring communities, are often referred to as the *Peninsula or Northside*.

Hampton Roads is home to numerous federal facilities and United States military installations, including Naval Station Norfolk, Joint Expeditionary Base Little Creek – Fort Story, Naval Air Station Oceana, and Joint Base Langley-Eustis. These installations are a major generator of economic activity, with government spending accounting for 30 percent of gross domestic product in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area in 2017.²

This section describes all fixed-route, demand response, ferry, and Transportation Demand Management (TDM) services, as well as the agency's fare system. Additional details about services provided and the areas served are included in **Appendix A**.

Existing Services

Hampton Roads Transit provides five primary services:

- Bus: local, limited-stop, regional express, and seasonal bus (trolley)
- Light rail
- Passenger ferry
- Demand response paratransit
- Transportation demand management.

Bus, Trolley, and Light Rail Service

HRT operates 50 local bus fixed-routes – 33 routes on the Southside (**Figure 1-2**)³ and 17 routes on the Peninsula (**Figure 1-3**). In addition, HRT operates Peninsula Commuter Service (PCS), a limited stop bus service with five routes that provides service to major employers on the Peninsula. HRT also offers Metro Area Express (MAX) service, a regional express bus service with nine routes traveling across jurisdictions, connecting major employment destinations. HRT operates the distinctly branded Virginia Beach (VB) Wave bus “trolley” service, which is a seasonal service that includes three routes in the Virginia Beach resort area. The agency's fixed-guideway light rail system, “The Tide,” operates in the City of Norfolk (**Figure 1-4**).⁴

All HRT-operated bus, trolley, and light rail services are wheelchair accessible. The *HRT Bus Stop Location Policy* also includes ADA design requirements for passenger boarding areas and new bus stop sites.⁵

Demand Response Paratransit

HRT contracts with a private vendor to provide demand response paratransit service for persons with disabilities. This service is offered within three-quarters of a mile of any fixed-route bus service during HRT's regular operating

¹ American Community Survey estimates.

² Bureau of Economic Analysis 2017 GDP by Metropolitan Statistical Area & Industry

³ Service on Route 980 is expected to begin in January 2022 once the new Amazon facilities are open.

⁴ These figures are current as of November 2021.

⁵ HRT Bus Stop Location Policy (June 28, 2021).

hours. All users of HRT's paratransit service must be certified through an eligibility application process. Certified customers can schedule a ride by contacting a reservationist at HRT's Paratransit Call Center from 8:00 a.m.–5:00 p.m. (seven days a week, 365 days a year) or through an online portal. Additionally, as of early August 2020 a new Paratransit app was launched. Through the app on a smart phone, Paratransit customers can now book rides in seconds, track the driver's location, see the expected time of their vehicle's arrival, and communicate directly with the driver if need be. Customers can now also view, edit, or cancel future rides and pay for their trips with a credit/debit card on file. All rides must be reserved by 5:00 p.m. the day prior to requested service and can be made up to seven days in advance. Subscription reservation services are offered for customers who have consistently recurring trips.

Passenger Ferry

HRT contracts to provide daily passenger ferry service on the Elizabeth River between Downtown Norfolk and Downtown Portsmouth, stopping at High Street, North Landing, and Waterside (**Figure 1-5**). Ferry service is also provided to the Harbor Park baseball stadium between April and September when the Norfolk Tides (minor league baseball team) play home games.

Transportation Demand Management

HRT facilitates commuters' access to vanpools, carpools, and telework options through TRAFFIX, the region's transportation demand management (TDM) program. Through TRAFFIX, commuters can utilize a van owned by a third-party leasing company. In FY 2021, 188 commuters used vanpooling through TRAFFIX (down 500 commuters since FY 2019 data, attributable to the COVID-19 pandemic's impact on travel patterns). See **Section A.4.7** for details about TRAFFIX.

Figure 1-1: HRT Service Area

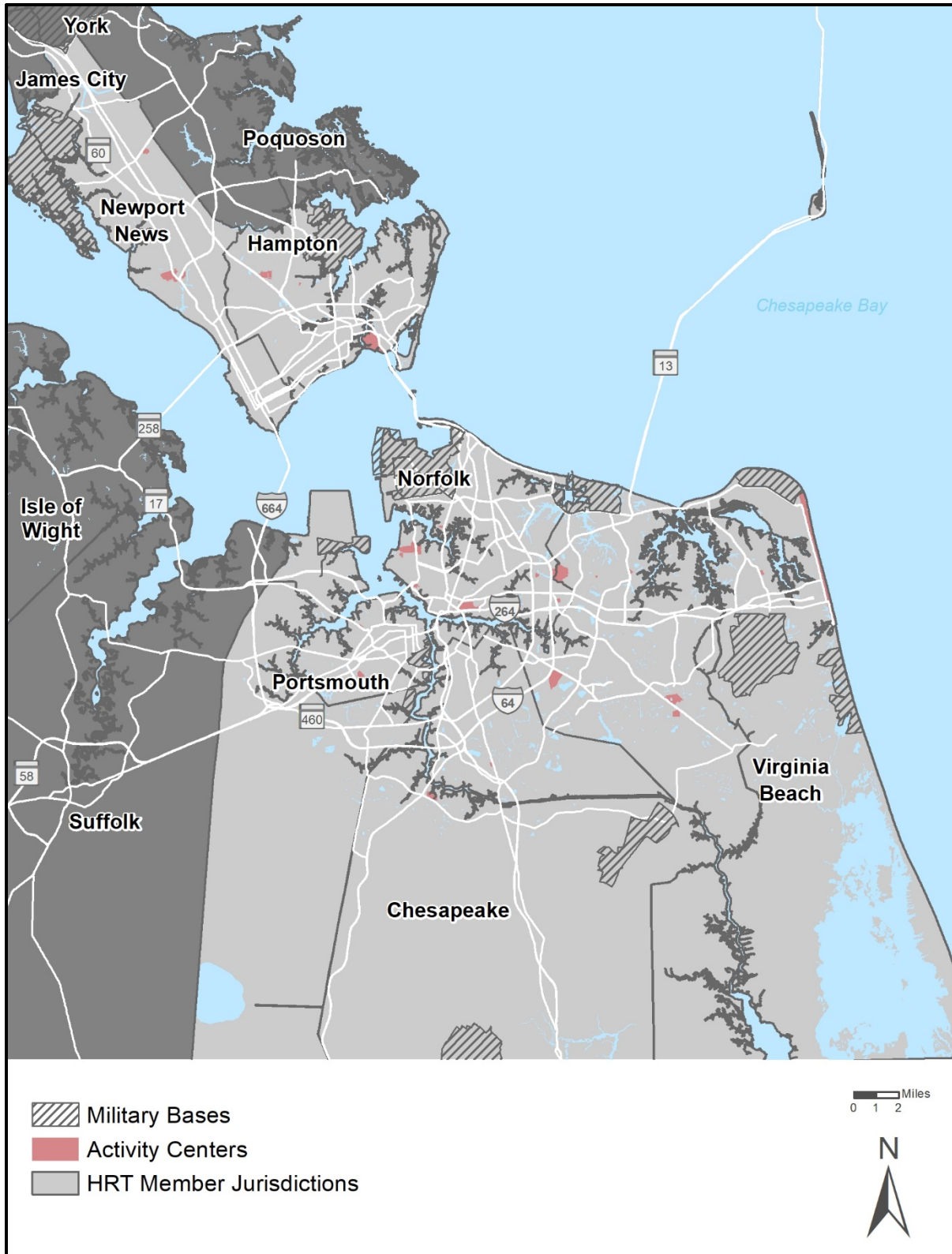
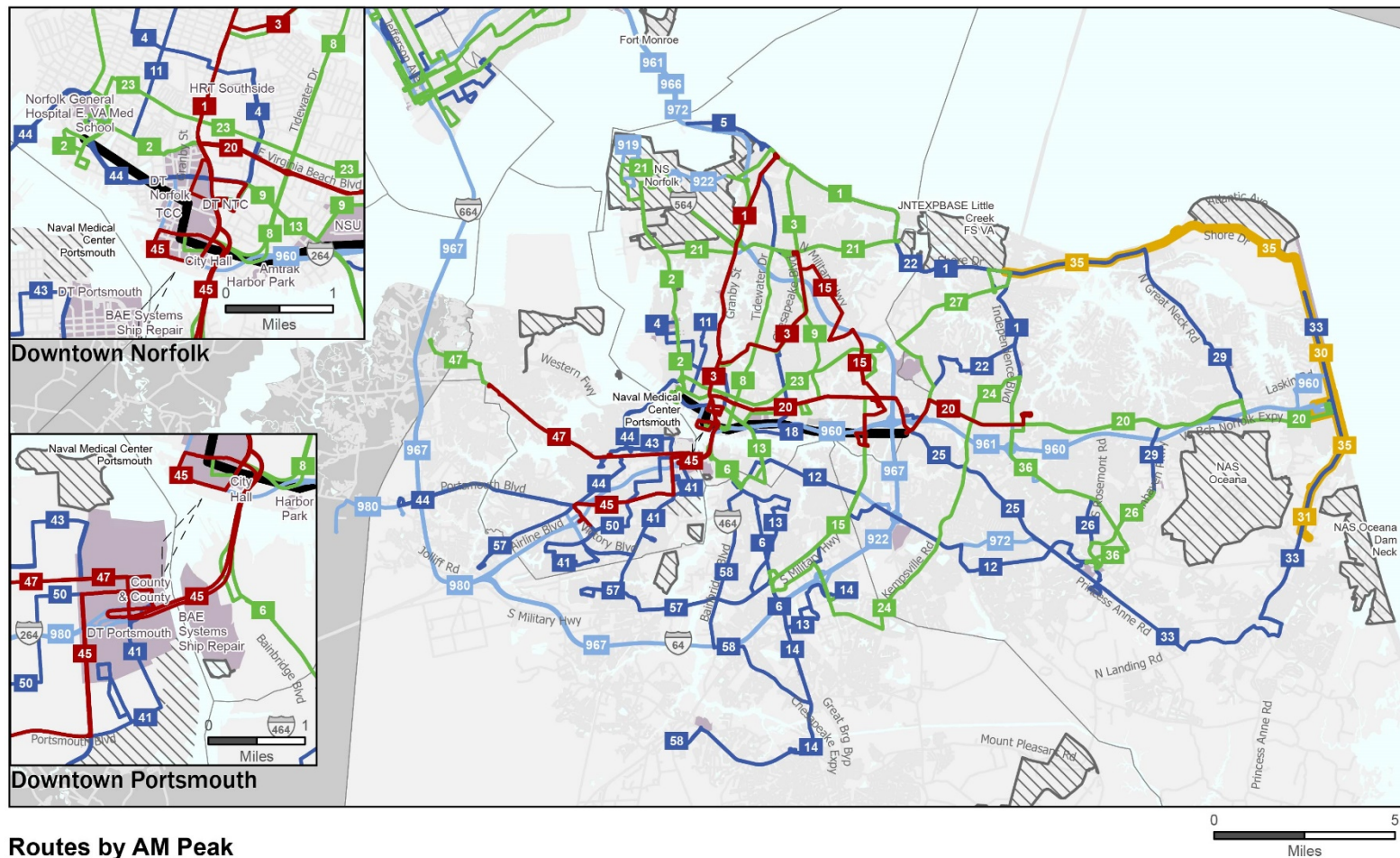


Figure 1-2: Existing Service, FY 2022 – Southside



Routes by AM Peak Headway

- 15 minutes
- 30 minutes
- 60 minutes

Other Services




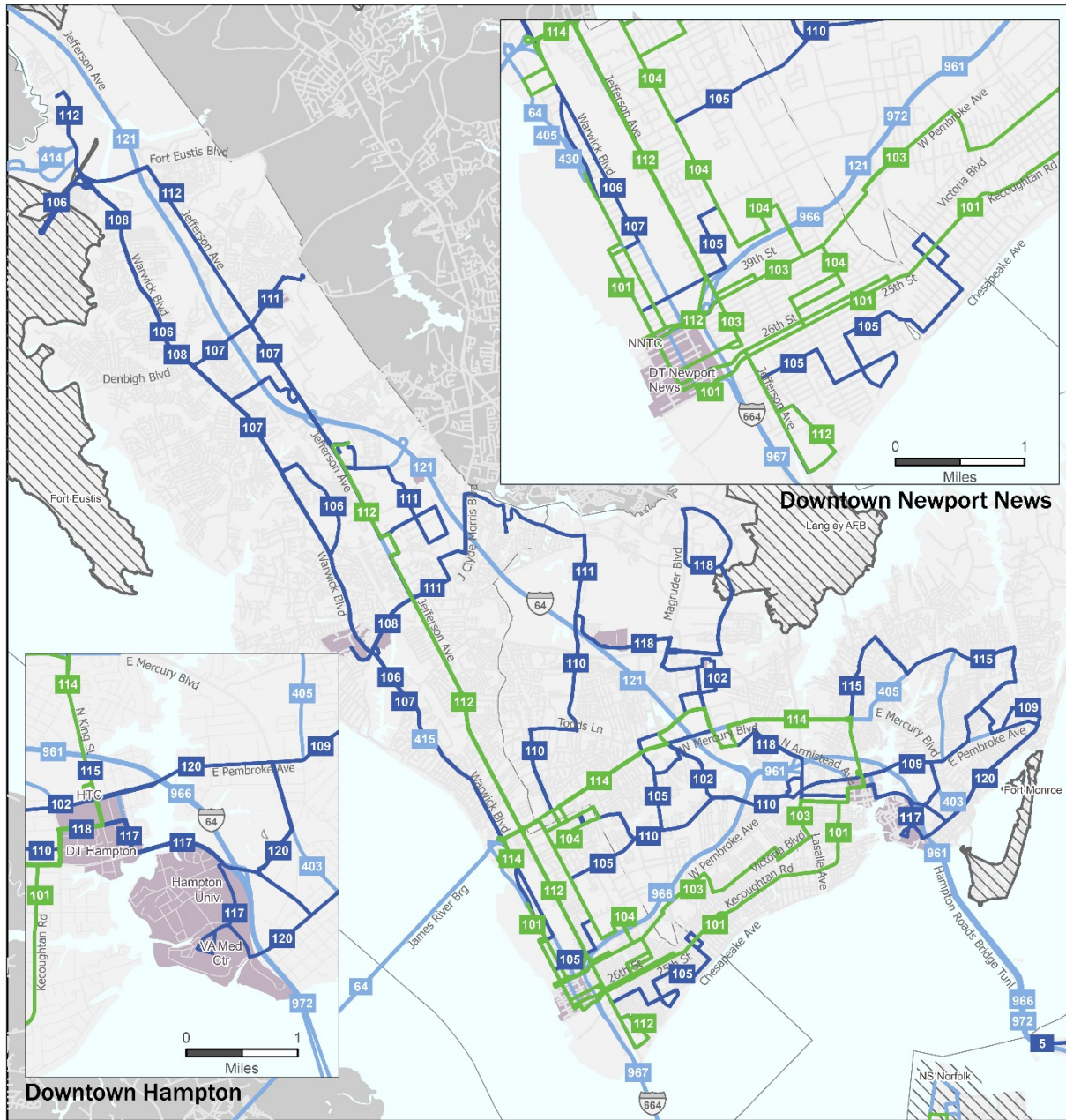
- PCS, MAX, Limited
- Trolley
- Light Rail
- - - Ferry
-  Military Base
-  Activity Center
-  City Boundary



Figure 1-3: Existing Service, FY 2022 – Peninsula






Routes by AM Peak Headway

- 15 minutes
- 30 minutes
- 60 minutes

Other Services

- PCS, MAX, Limited

-  Military Base
-  Activity Center
-  City Boundary

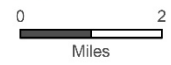
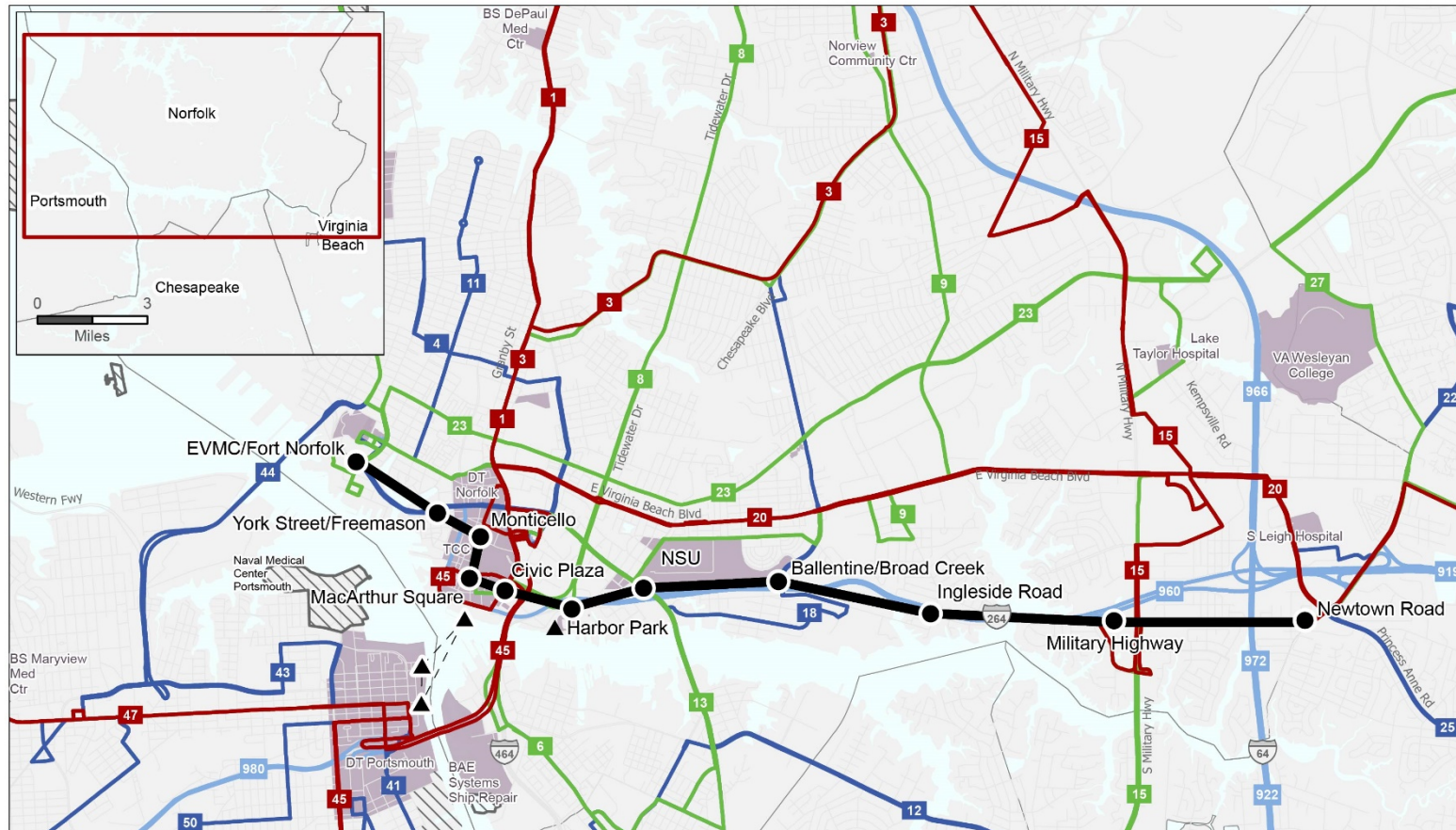


Figure 1-4: Existing Service, FY 2022 – Light Rail



Routes by AM Peak Headway

- 15 minutes
- 30 minutes
- 60 minutes

Other Services

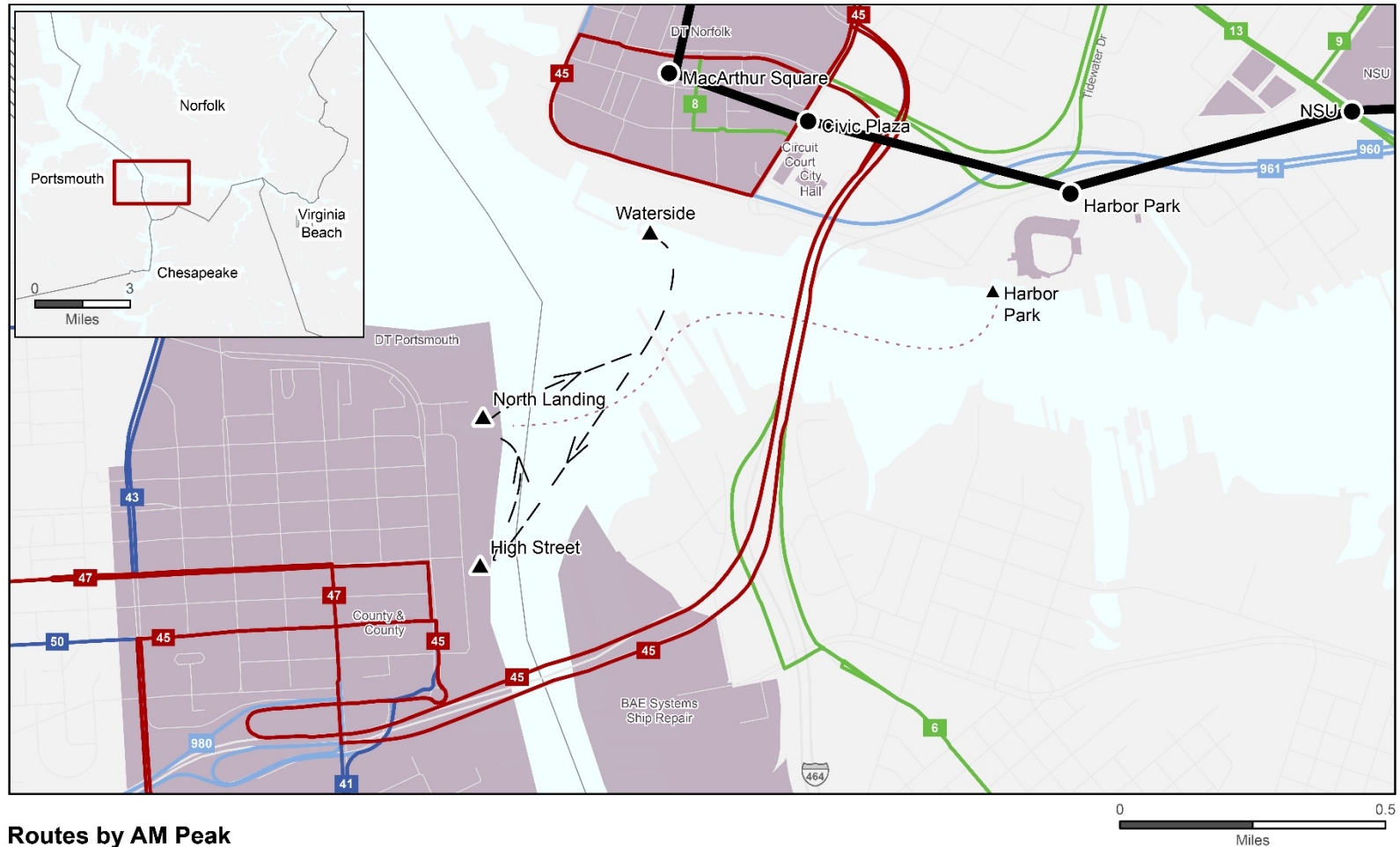
- PCS, MAX, Limited
- Light Rail
- Light Rail Stations

- - - Ferry
- ▲ Ferry Stations

- Military Base
- Activity Center
- City Boundary



Figure 1-5: Existing Service, FY 2022 – Ferry



Routes by AM Peak Headway

- 15 minutes
- 30 minutes
- 60 minutes

Other Services

- PCS, MAX, Limited
- Light Rail
- Light Rail Stations
- - - Ferry
- . . . Ferry (Seasonal)
- ▲ Ferry Stations
- Military Base
- Activity Center
- City Boundary



Existing Fare Structure

Single trip fares and multi-day passes may be used to pay for HRT bus, light rail, and ferry service, as shown in **Table 1-1**. Tickets can be purchased on-board or via ticket vending machines, located at transfer centers and all Tide Light Rail stations. Several retail outlets also sell HRT fare cards, and bulk purchases can be made on the HRT website. Passengers aged 18 and older pay the adult fare; senior citizens and persons with disabilities qualify for reduced fare. Children and youth (passengers under 18) can ride for free when accompanied by a fare paying adult or with a Student Freedom Pass.

In October 2017, the base fare was raised to \$2.00 from \$1.75. In July 2021, HRT updated its fare policy to include a new fare classification: Limited Stop MAX. See **Section A.5** for more details about fares.

Table 1-1: HRT Fares

Ticket/Pass Type	Adult	Discounted Fare
Local Bus, Limited Stop MAX, Light Rail, & Ferry		
Cash	\$2.00	\$1.00
1-Day Pass	\$4.50	\$2.25
1-Day Pass (Bundle of 5)	\$21.00	\$10.50
7-Day Pass	\$22.00	n/a
30-Day Pass	\$70.00	\$40.00
VB Wave		
Cash	\$2.00	\$1.00
1-Day Pass	\$4.50	\$2.25
3-Day Pass	\$8.00	\$4.00
MAX		
Cash	\$4.00	\$2.00
1-Day Pass	\$7.50	n/a
1-Day Pass (Bundle of 5)	\$35.00	n/a
30-Day Pass	\$125.00	n/a
Paratransit⁶		
Clients - Cash	\$3.50	-
Personal Care Attendant ⁷	-	-
Guests - Cash	\$3.50	-

⁶ Certified paratransit customers are eligible for free fares on HRT fixed route services (bus, light rail, ferry).

⁷ A personal care attendant (PCA) provides personal assistance to disabled passengers and rides on paratransit at no charge. There is no certification process for PCAs, but clients must notify the reservationist if a PCA will accompany them on their trip.

1.1.2. Current/Recent Initiatives

Table 1-2 summarizes HRT’s ongoing and recent initiatives which impact the provision of transit services. Additional details can be found in the Appendix in **Section A.12**.

Table 1-2: Summary of Agency Initiatives

Initiative	Summary
757 Express	<p>In November 2018 HRT initiated the <i>Transit Transformation Project</i> with the goal of conducting a comprehensive review and planning effort to improve the design and performance of HRT bus services. The culmination of that effort was documented in chapter six of the 10-year Transit Strategic Plan (TSP) that was adopted by the TDCHR in June 2020. The work resulted in the identification of 13 Regional Backbone routes that serve destinations across the region. These routes, along with MAX and Peninsula commuter routes, share common characteristics in terms of serving key employment centers, educational institutions, medical facilities, military installations and other key businesses. The 13 routes will have increased service frequencies and expanded spans of service which will be standardized across the region. Key passenger facilities and amenities, technology investments related to mobile fare payment, real time passenger information, passenger information displays, and other technology upgrades were also identified in the TSP. Collectively, these investments have been designated as the “757 Express” Program. The 757 Express “brand” and related logo will be utilized on backbone routes, passenger facilities, and anything else that is funded by the Hampton Roads Regional Transit Program.</p>
HRT 2021 Strategic Planning	<p>HRT reevaluated its vision, mission, values, and agency goals and objectives that were part of previous planning efforts and initiated a new Strategic Planning Process. As part of the SPP, HRT conducted an annual SET retreat in April 2021.</p>
HRT Transit Strategic Plan	<p>HRT completed and approved its first ten-year Transit Strategic Plan in June 2020; the first minor annual update was adopted in March 2021. The TSP effort involved a review of existing services and the socio-economic setting in which they operate, an assessment of agency structure and policy, and the development of a ten-year action plan for service changes across the region. DRPT requires each transit agency to complete a major TSP update every five years, with a minor update being developed annually for anything that has changed from the previous year.</p>
Naval Station Norfolk Transit Corridor Project	<p>The Naval Station Norfolk Transit Corridor Project aims to establish high-capacity transit on the east side of the City of Norfolk between the existing Tide Light Rail system and Naval Station Norfolk. As of Fall 2021, two projects have been identified for advancement in a multi-phased expansion of the transit network in the Military Highway Corridor. Phase 1 is an extension of the world-class Tide light rail to the Military Circle redevelopment area. Phase 2 is the development of an innovative Bus Rapid Transit (BRT) to Naval Station Norfolk. Ongoing alternatives analysis and environmental documentation for various high-capacity transit modes to Naval Station Norfolk.</p>
Peninsula Bus Rapid Transit Documented Categorical Exclusion	<p>In 2016 and into 2017, the Peninsula Corridor Study defined potential high-capacity transit connections between existing and future activity centers in Hampton and Newport News.⁸ The study identified two bus rapid transit (BRT) corridors—the Jefferson and Mercury corridors—as the most feasible and cost-effective alternatives, representing the Peninsula’s best opportunity to meet the high-capacity transit needs of the community and effectively compete for FTA funding. These corridors provide the best mobility and community benefits with the least impacts to the existing environment. The Peninsula BRT Documented Categorical Exclusion (DCE) process is expected to conclude by Summer 2022. It will further define corridor alternatives and environmental documentation will be completed to prepare for future processes and application under the federal Capital Investment Grant Program. Subsequent to the completion of the DCE process, it will be the decision of both City Councils if they wish HRT to proceed with the next phase of project development under the federal Capital Investment Grant process.</p>

⁸ <https://www.peninsulabrt.com/>

Initiative	Summary
Newport News Transit Signal Priority	<p>HRT has applied for federal earmark funding to install transit signal priority on Jefferson Avenue and Mercury Boulevard in Newport News. The project would implement signal preemption for transit vehicles at 83 intersections along the Peninsula BRT corridor in Hampton and Newport News. Buses used to provide service on routes 112 and 114 under the 757 Express program would be outfitted with transponders to realize improvements in schedule reliability and travel time.</p>
Automatic Passenger Counters (APC)	<p>Automatic Passenger Counters (APCs) are installed on each light rail vehicle and have recently been certified by the Federal Transit Administration for NTD reporting purposes.</p> <p>The Hampton Roads Transit (HRT) APC Certification and Maintenance Plan project sought to produce an Automated Passenger Counter (APC) benchmarking report that would allow for APC data from HRT buses to be used for National Transit Database (NTD) reporting. Based on the recommendations, HRT will need to conduct further calibration of its APC devices and TransitMaster system, followed by an additional round of benchmark comparisons.</p>
Fleet Electrification Pilot	<p>HRT has successfully been awarded grant funding which totals \$7.8 million for the pilot. In partnership with Proterra Bus, HRT acquired six 40-foot, all-electric buses and seven supporting charging stations to demonstrate the capabilities of all electric buses on a Southside route. As of Fall 2021, the testing period is going smoothly.</p>
Mobile Fare Collection System	<p>HRT's first mobile-ticketing fare payment was introduced on Trolley routes in 2018, to be followed by adoption of similar technology system-wide.</p>
TAP Grant	<p>Federal funding is being used to retrofit bus stops which are not compliant with the Americans with Disabilities Act.</p>
2021 Origin-Destination On-Board Survey	<p>Planned on-board customer survey to understand the travel patterns of riders and demographic and attitudinal information. This has been delayed to the reduced service running as a result of the COVID-19 pandemic. It is anticipated that the survey will be conducted in 2022.</p>
Regional Transit Planning Process and New Regional Transit Advisory Panel	<p>HRT, WATA and Suffolk Transit have developed a regional transit planning process as required by § 33.2-286 of the Code of Virginia, and each agency is actively collaborating with the Hampton Roads Transportation Planning Organization (HRTPO). HRTPO established a new Regional Transit Advisory Panel (RTAP) composed of representatives of major business and industry groups, employers, shopping destinations, institutions of higher education, military installations, hospitals and health care centers, public transit entities, and any other groups identified as necessary to provide ongoing advice to the regional process and the long-term vision for a multimodal regional public transit network in Hampton Roads.</p>
Office of Program and Project Excellence	<p>HRT's new Office of Program and Project Excellence (OPPE) has been established within the Executive Department with the mission to achieve agencywide excellence in planning and administration of programs and projects.</p>
Microtransit Demonstration Grant and Pilot Programs	<p>An RFP is currently out for a third-party contractor to operate "turnkey" on-demand service for pilot programs in Virginia Beach and Newport News. The pilot programs will be funded through a Virginia Department of Transportation "demonstration grant" of \$1.6 million plus matching local funds from both cities as required by the state grant. It is expected that pilots would begin in Spring 2022.</p> <p>Additionally, HRT is currently working with the City of Hampton to explore microtransit options to identify demand responsive service to cover areas losing service due to the planned elimination of Route 118. An initial microtransit zone has been discussed with the City of Hampton in January 2021 and a subsequent presentation was made to the Hampton City Council.</p>

Initiative	Summary
Interstate Operations and Enhancement Program	This is a grant HRT has been awarded from the Commonwealth to improve service headways on routes that operate on or run parallel to I-64: Routes 106, 107, and MAX Route 972.
TRIP Grant Application	HRT has applied for two TRIP grants ⁹ and has been notified that one will be funded and one will not (as of October 2021). One grant application is to fund potential internal service on Naval Station Norfolk as an extension of Route 21, similar to a circulator-type of service. If the grant application is successful, Route 21 would be modified in a future TSP update for its western end to operate a service pattern on the base that connects to key destinations. The other grant application is a request to fund two additional positions and equipment in order to more efficiently deploy additional Student Freedom Passes for eligible students.

1.2. Strategic Plan

HRT’s strategic vision, goals, objectives, and performance measures reflect the agency’s core values and build on past and current initiatives. The *Transit Transformation Project* provided a fresh opportunity to examine HRT’s strategic vision, mission, goals and objectives. This included garnering input from employees, customers, HRT’s governing board, and stakeholders through surveys, focus groups, strategic retreats and other special meetings. With these efforts, HRT updated its vision, mission, goals and objectives, which are reflected in this section.

1.2.1. Vision and Mission Statements

HRT’s vision and mission statements were updated as part of the *Transit Transformation Project* and internal strategic planning processes.

- **Vision:** A progressive mobility agency that promotes prosperity across Hampton Roads through collaboration and teamwork.
- **Mission:** To connect Hampton Roads with transportation solutions that are reliable, safe, efficient, and sustainable.

RESPONSE, RECOVERY, RESILIENCE: HRT’S COVID-19 STRATEGY

By March 2020 the COVID-19 outbreak led to declared states of emergency at all levels of government in the United States. Efforts to safeguard public health and limit the spread of the virus included widespread travel restrictions and tactics like social distancing, use of Personal Protective Equipment (PPE), and other measures. HRT closely tracked developments and began planning to address impacts in early 2020, as the effects on public transportation became more significant as the pandemic worsened in Hampton Roads and communities across the nation.

HRT has activated a multi-year strategy to effectively meet both immediate challenges and ongoing impacts and uncertainty due to COVID-19. With the help of emergency funding from state and federal partners, HRT quickly adapted to new conditions and remains focused on accomplishing its day-to-day mission while positioning the agency for a sustainable future.



RESPONSE (Years 1-2) - Immediate actions that maintain essential operations and support HRT's workforce and public health:

- Enhanced cleaning in all facilities and transit vehicles.
- Encouraging social distancing and distribution and use of PPE.
- Implemented an Essential Service Plan between March 31 and June 14.
- No fares were charged between March 31 and June 30 to reduce social interactions and limit the use of high-touch surfaces.
- When fares were not charged, use of rear-door boarding and exiting to limit exposure to HRT operators and provide distance between passengers.
- Encouraged/required customers to wear face masks and only travel for essential trip purposes.
- Implemented teleworking and staggered work hours for HRT employees.
- Enhanced pay for operators and front-line workers.
- Installed protective barriers on vehicles to help limit up-close interactions.
- Offsetting farebox losses by using emergency state and federal funding.
- Recurring on-site COVID-19 testing for HRT employees; if positive, employees are not to come in for 14 days and must be tested twice with negative results each time in order to return.
- Providing ongoing information and workforce support to promote vaccinations.


RECOVERY (Years 2-3) – Keeping transit operational and mitigating ongoing risks:

- Continued enhanced cleaning in all facilities and transit vehicles.
- Continue to offset farebox losses using emergency funding while working to stabilize and increase ridership.
- Continued social distancing of staff in office buildings, use of PPE, barriers, and other tactics.
- Adapting to teleworking, virtual meetings, and online collaborations.
- Recruiting, training, and ongoing support for operations workforce.
- Continue adapting to conditions based on public health data and guidance.
- Remain focused on public health and safety in all operations and work environments.

RESILIENCE (Year 3 onward) – Ensuring long-term sustainability and operational success:

- Maintain viable and sustainable transit service.
- Deploy technologies that enhance safe commuting, including touchless interactions.
- Solidify operations of core regional backbone service.
- Establish and maintain fiscal stability and agility for HRT to meet future challenges.

Public transportation, like other industries, is clearly faced with new challenges and opportunities in the wake of COVID-19. In addition to activating HRT's multi-year strategy for both immediate and ongoing response, initial recovery, and ongoing resilience, the President and CEO is also active in the region-wide "757 Recovery & Resilience Action Plan" initiative. Transit will play a vital role in the economic recovery and long-term sustainability of Hampton Roads, and a major component of this will be implementing the "757 Express" Regional Backbone network.

Core Values

HRT's core values have been updated based on input from employees during strategic retreats, surveys, and focus group meetings. The agency's previous seven core values and supporting statements were streamlined and focused to a total of four. Input from HRT's board emphasized having a commitment to excellence, which undergirds each of the core values that were identified and prioritized by employees.

These core values influence the agency's desired culture and guide day-to-day business activities for HRT to achieve its vision and mission. They are the guiding principles and behaviors that embody how HRT and its workforce are expected to operate:

- **Safety:** We strive for safety excellence in all areas of our business
- **Customer Service:** We're committed to professional, courteous and dependable service
- **Workforce Success:** We're committed to effective hiring, training, and ongoing success of every team member
- **Fiscal Responsibility:** We're dedicated to diligent stewardship that is accountable, transparent, and delivers the most value for our customers and funding partners.

1.2.2. Goals and Objectives

HRT reviews and updates agency goals and objectives annually. Additionally, HRT's Board outlined six goals for the President and CEO's focus for 2022-2023, three of which focus especially on implementing the Transit Strategic Plan and Hampton Roads Regional Transit Program. Reflected below are the four agency goals (each with multiple objectives) as well as the six goals given by the Board of Commissioners.

Agency Goals

- 1. Provide a high-quality service that is easy to use and enhances people's lives.**
 - A. Provide reliable and desirable service, amenities, and information.
 - B. Serve people where and when they need to travel.
 - C. Offer a safe and secure transportation service for all customers.
 - D. Achieve and maintain a high rate of customer satisfaction.
- 2. Foster regional quality of life and economic vitality.**
 - A. Contribute to congestion mitigation and improved mobility.
 - B. Maximize access for residents, employees, and visitors to and between regional activity centers, job centers, and workforce development opportunities.
 - C. Contribute to regional air quality and pollution reduction goals.
 - D. Build community trust as a valuable partner in a thriving region.
- 3. Ensure financial stewardship and cost-effective operations.**
 - A. Provide cost-efficient transit service that leverages all available resources to offer the best value for the investment.
 - B. Perform asset management that achieves and maintains a state of good repair and sustainability and maximizes investment impacts.
 - C. Effectively align and manage resources and processes to maximize workplace productivity and achieve agency goals.
 - D. Demonstrate safe and sustainable business practices to ensure long-term viability.
- 4. Build a culture for innovation and workforce success to ensure HRT remains relevant to the dynamic needs of the region.**
 - A. Continue to change and innovate collaboratively with our partners and stakeholders to improve service to customers.
 - B. Support an empowered workforce to strengthen core competencies and generate efficiencies and innovation within Hampton Roads Transit.
 - C. Be an employer of choice within the region and in the industry.
 - D. Inspire and invest in our workforce and develop future leaders.

TDCHR Goals for the President and CEO

Implementing the Transit Strategic Plan (including the Hampton Roads Regional Transit Program)

- 1. Initiate the first grouping of high-frequency routes on the Peninsula of the core regional backbone as approved in the Strategic Plan on March 25, 2021, by the Transportation District Commission of Hampton Roads, contingent on hiring targets.**
 - A. Initiate procurement of new buses, shelters, and other core components of the first phase of the regional program.
 - B. Coordinate with all member cities to begin installation of passenger amenities at high ridership locations.
 - C. Recruit and train a qualified workforce.
- 2. Ensure the strategic integration of technology and enhanced customer amenities, including new shelters, benches, trash receptacles, and solar lighting, in the regional transit program implementation.**
 - A. Prioritize technology upgrades including system-wide mobile ticketing, passenger information displays at transit hubs, and real-time tools that support easy and seamless trip planning and ticketing.
 - B. Enhance amenities at stops to include additional lighting, seating, trash receptacles and shelters at locations system-wide where the largest number riders utilize the service.
- 3. Develop a comprehensive and integrated public communications plan including internal and external stakeholders to socialize and market the Strategic Plan and forthcoming transit investments to support the economic recovery of the Hampton Roads Region.**
 - A. Deploy multi-media and online tools to inform and involve stakeholders and leverage social platforms, advertising and the news media.
 - B. Coordinate with partners and regional stakeholder groups to incorporate transit into economic development and recovery initiatives and strengthen HRT's role as trusted regional mobility agency.
- 4. Optimize resources to improve HRT's financial footing and fiscal sustainability to include proactive leveraging of available funds to deliver projects and services.**
- 5. Develop and initiate strategies to transit ridership.**
- 6. Work strategically with HRT's component city governments to evaluate the feasibility and potential development of a viable funding strategy for the possible expansion of light rail to uptown Sentara and Military Circle redevelopment areas; advance Bus Rapid Transit on the Peninsula; explore additional fixed-guideway opportunities in Chesapeake and connecting to Naval Station Norfolk; proactively respond to flooding issues within HRT's footprint; and complete fiscal analysis and master planning for potential future electrification of HRT bus operations based on benchmarking and best management practices.**

1.2.3. Service Provision Principles

HRT’s vision, mission, and core values drive the agency’s culture and purpose, which shape the service HRT provides to its customers. HRT also has goals and objectives to help guide the planning, provision, and sustainability of service.

As part of the *Transit Transformation Project* and development of the Transit Strategic Plan, the agency sought extensive public and stakeholder input on how it should aim to meet its goals while also acknowledging the inherent tradeoffs that come with having limited resources to invest. Over 1,200 current HRT customers were involved in the planning process through 21 “pop-up” events at transit hubs. Feedback on regional survey questions was received by 2,731 participants. The top six priorities identified through the survey are:

1. More reliable service (on-time arrivals and drop-offs)
2. Frequent service during rush hour (5:00-9:00a.m. and 3:00-7:00 p.m., Monday-Friday)
3. Real-time bus arrival information
4. Safety and security
5. Mobile ticketing and fare payment options
6. More sheltered stops in my city.

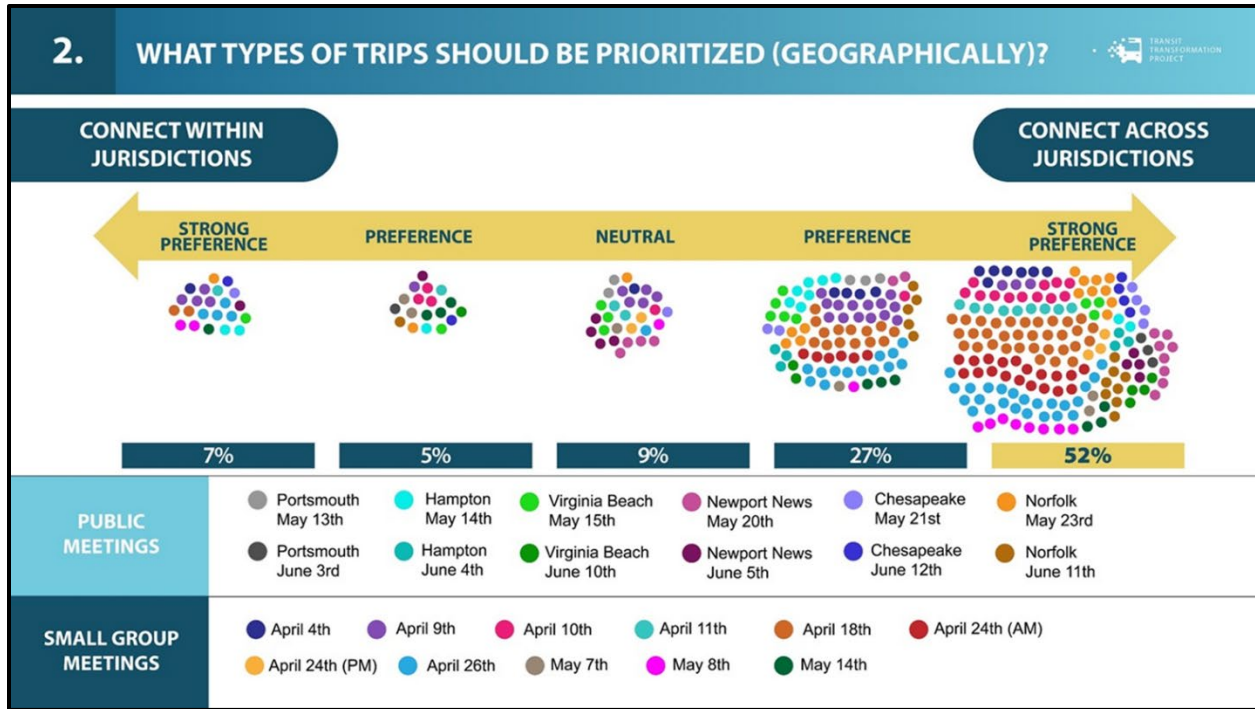
To explore priorities and preferences that should guide plans for improved transit in the HRT service area, HRT posed several trade-off questions during public meetings and stakeholder workshops that included representatives from healthcare, education, military and federal facilities, economic development, housing, human services, and other sectors.

Figure 1-6 shows the structure of questions asked as well as results from one of the questions. Each question had the same type of scale, with arrows pointing from a strong preference on one side, to neutral, to a strong preference on the other side. Participants placed one dot for each question to indicate what they would prioritize when choosing between different options. All five questions are shown in **Table 1-3**.

Table 1-3: Tradeoff Questions Asked

Question	Left Side of Arrow	Right Side of Arrow
Where should buses run, and with what frequency?	Bus service everywhere	High-frequency service
What types of trips should be prioritized (geographically)?	Connect within jurisdictions	Connection across jurisdictions
What types of trips should be prioritized (temporally)?	Peak period commute trips	Equal priority across day
Should buses receive priority treatment on roadways?	No preferential treatment for buses	Preferential treatment for buses
Should regional bus service standards be created and applied?	Jurisdictional-level bus service standards	Regional bus service standards

Figure 1-6: Example of Tradeoff Activity from Small Group Meetings



Here is a summary of results for the Trade-Off activities:

- Stakeholders showed clear preference for frequent bus service on major corridors over extensive geographic coverage of service (60% of participants preferred frequent service)
- A strong preference was indicated for inter-city connectivity, prioritizing regionally connected service more than connections within each jurisdiction
- Stakeholders prioritized more frequent peak-hour service on weekdays, while also indicating the importance of access to bus service on weekends and weekdays during off-peak hours
- There was a very strong preference for implementing dedicated bus lanes, signal priority, or some other methods to provide buses preferential treatment on roadways
- There was a very strong preference for applying regional bus service standards, including hours of service, frequency of passenger pick-ups, and coverage that is consistent across city boundaries (75% support).

Based on all the input received into the planning process, HRT adopted Guiding Principles to create the recommended service changes that are found in **Chapter 3**:

- Follow regional bus service standards
- Prioritize high-frequency services
- Balance resources between peak hour and all-day service
- Prioritize connections across jurisdictions
- Provide sufficient coverage to ensure access to transit
- Leverage a data-driven approach and factoring of funding and operational constraints to prioritize and phase implementation.

The following sections provide more detail on how these principles were applied in planning for an improved HRT bus network.

Follow Regional Bus Service Standards

Based on overwhelming support for this guiding principal, HRT is placing a new emphasis on regional standards, which are reflected in the service plan in **Chapter 3**, and detailed in **Section 1.2.4** and **Section 1.2.5**. Public and stakeholder feedback indicated a preference for regional service standards to be applied across all of HRT's bus service. This would support more consistency regionwide in terms of span of service and frequency by service type. Riders expressed frustration with the mismatch between different end-of-service times in different jurisdictions. Regional standards received overwhelming preference over jurisdiction-level service standards.

Prioritize High-Frequency Services

HRT will continue to balance providing high-frequency service where and when it is warranted with the need for geographic coverage in areas warranting transit service. When presented with the tradeoff, HRT customers and other stakeholders pointed to higher frequency services as a preference over higher geographic coverage.

One of the preliminary scenarios that was presented as part of the *Transit Transformation Project* consolidated regional bus service around high-frequency routes, resulting in a network with low geographic coverage. This scenario proved an important test for the region, as many people liked the idea of the high-frequency routes but, at the same time, did not see it being feasible or desirable to lose as much geographic coverage as was required to provide the resources for the conceptual high-frequency network. To balance the desire for prioritizing high-frequency services while still providing coverage to connect riders to the high-frequency routes, HRT has recommended an increase in the availability of high-frequency services and the testing of innovative on-demand transit zones to fill geographic coverage gaps.

Many people said they preferred bus-only lanes on selected corridors to help speed up buses and make them more reliable and thus more attractive to use. Since HRT is not the owner or maintainer of the roadways, that is not included as a planning principle; however, the sentiment relates to the desire to provide increased high-frequency services.

Balance Resources Between Peak Hour and All-Day Service

HRT strives to provide service where and when it is needed. Many riders need service during traditional peak hours while others need service throughout the day. Overall, public and stakeholder feedback pointed to a preference for prioritizing service during peak hours over all-day service, but the more frequent a rider is, the more they prioritized all-day service. This points to a need to strike a balance between serving peak period customers with frequent enough service to attract them to ride while still leaving enough resources to provide service throughout the day for people who rely on transit for their trips.

Prioritize Connections Across Jurisdictions

Commuters' travel patterns are very often inter-jurisdictional in nature, and HRT strives to provide services that connect customers with where they need to go in the most efficient manner possible. Overwhelming feedback from stakeholders and the public favored prioritizing service across jurisdictions rather than within jurisdictions.

Provide Sufficient Coverage to Ensure Access to Transit

Feedback from the public and stakeholders demonstrates a commitment to providing easy and safe pedestrian access to bus stops across the region. When faced with the tradeoff of having "fewer stops and faster trips" rather than having "more stops and shorter walks," most stakeholders and regular riders preferred "shorter walks." This was especially important to people when considering the needs of the elderly population throughout the region. Less frequent riders of HRT were more interested in faster trips with fewer stops. It is important to strike a balance between these two tradeoffs.

Leverage a data-driven approach and factoring of funding and operational constraints to prioritize and phase implementation

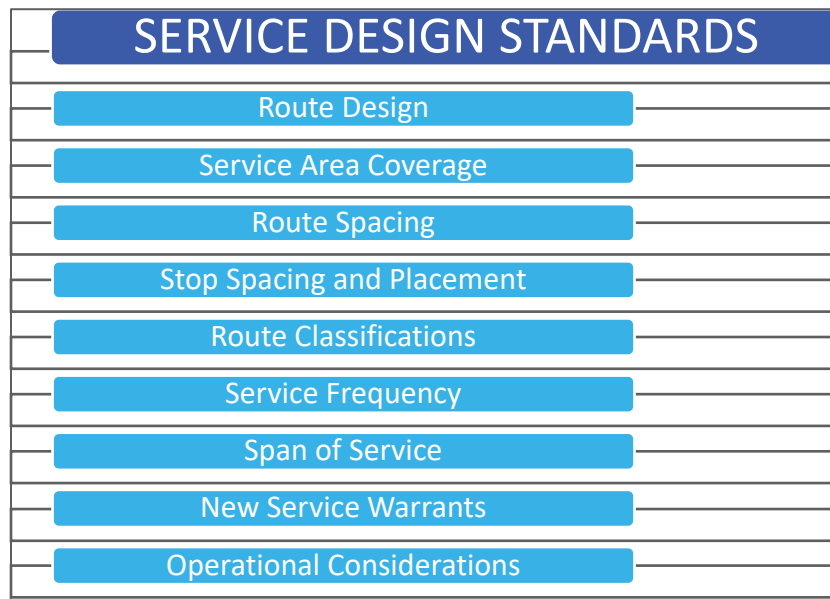
Hampton Roads is a diverse region with unique local needs and priorities for investing in public transportation improvements. The services outlined in **Chapter 3** are based on guiding input from city leaders and staff about local priorities and planning for the best use of limited financial resources to achieve the greatest returns on investment in terms of ridership and serving customer needs.

1.2.4. Service Design Standards

Service design standards define policy level standards that are followed in designing transit service. These standards allow for informed decision making and ensure consistency in how transit is planned across the system in similar operating environments.

Given budget and equipment constraints, it is imperative that HRT has specific standards and guidelines in place to ensure the highest possible quality of service is provided and delivered efficiently and effectively. **Figure 1-7** provides an overview of the service design standards. The following design standards are drawn from HRT’s “Service Standards and Performance” policy document (PD – 112), updated June 29, 2020.

Figure 1-7: Service Design Standards



Route Design

The alignment of each route is a key factor in its ability to successfully serve customers’ mobility needs. “Route design” refers to route directness, connections to key origins and destinations, and how routes interface with other services that comprise the overall network. Route classifications are based upon transit need and define the level of service per route. Key route design principles include:

- HRT routes should be designed to serve origins and destinations via direct pathways, minimizing out-of-direction movements. This provides a faster trip to serve commuters better, attract more riders, and enhance fare revenues while minimizing the cost to provide service
- Bus routes should serve major mixed-use corridors throughout the service area, avoiding smaller neighborhood streets
- High-frequency HRT routes should be designed to serve major corridors, offer more direct service, and provide transfer connections either on-street or at major transfer hubs in the urban core.

Deviations

Deviations off the basic alignment of a fixed route should be minimized whenever possible. However, routes may deviate off their primary alignment to serve major activity centers or provide coverage to areas with limited access. The additional time necessary for the deviation should not exceed five minutes, or ten percent of the one-way travel time of the existing route without deviation. Deviations must result in an increase in overall route productivity after one year or the deviation should be eliminated.

Mid-route deviations that cause a route to significantly deviate from the most direct route between major travel generators, should be avoided. In some instances, a deviation is warranted because of potential ridership gains. In evaluating a proposed deviation, it should be determined that the total additional travel time for all through passengers should not exceed ten minutes for each boarding and alighting along the deviation. This is expressed in the following formula:

$(Pt * T)/Pd \leq 10$ minutes, where:

- **Pt** = Number of through passengers
- **T** = Additional vehicle travel time
- **Pd** = Number of boardings and alightings on the deviation.

Service Area Coverage

The coverage aspect of service design standards defines how transit services should be provided in the different commuter markets of the HRT service area. This includes defining levels of density that should be served by fixed-route bus and levels that may not support such service, as well as defining the maximum allowable walking distance to transit services given the type of service that is being proposed or provided currently.

Transit routes in the urban core should be ideally no closer than one half-mile from each other to balance good access with service cost effectiveness. This provides customers with one-quarter mile walk access (roughly a five-minute walk) to more frequent service than would be possible with closer spaced routes. Placing routes closer should only occur where regular half-mile spacing is not feasible and/or where market densities support productive service more closely spaced.

Outside of the urban core, route spacing should follow the demand corridors where densities meet minimum requirements for productive service. Areas with fewer than 4,000 residents or jobs per square mile could support productive fixed-route transit service but may be better served by demand-responsive transit zones where fixed-route service would not serve the area well for various reasons. Areas with fewer than 2,000 residents or jobs per square mile within the HRT service area do not have the necessary density to support productive fixed-route transit service and should only receive fixed-route service if a major trip generator is present. Demand-responsive transit zones can provide service in areas where the density of population and jobs warrants transit service, but are low enough that regular fixed route service would be less effective; actual zone design will depend upon the street network and travel patterns within the zone, points of interest and concentrations of residents and commercial activity, as well as availability and placement of connections to fixed-route transit.

Stop Spacing and Placement

When establishing new bus stops or replacing existing bus stops, HRT coordinates with local jurisdictions to locate and identify mutually acceptable locations. Local jurisdictions make the final decisions about bus stop placement or relocation, as bus stops typically have significant interface with public right-of-way and vehicular traffic. HRT considers many elements when locating a bus stop:¹⁰

- Stops should be placed based on population density and/or major passenger generators (i.e., major employment centers, regional shopping centers, hospitals, etc.)
- Distance between bus stops should be a minimum of 1,056 feet (one-fifth mile) and a maximum of 1,320 feet (one-quarter mile) apart or three to four blocks apart
- Presence of sidewalks, marked crosswalks, and curb ramps
- Protected crossings at signalized intersections
- Connection to nearby pedestrian circulation system
- Access for elderly and people with disabilities
- Convenient passenger transfers to other routes
- Effect on adjacent property owners.

¹⁰ HRT Bus Stop Location Policy, June 21, 2019.

Other general elements to consider include traffic and rider safety, bus operations, and bus stop placement. HRT’s “Bus Stop Location” policy, approved June 21, 2019, provides additional details on these elements.

Route Classification

The classification of HRT routes establishes the roles routes serve in the transit network and their market functions. Classifying routes allows a balanced approach to the development of service standards where each route’s performance is assessed against routes serving similar functions.

Table 1-4 shows the five classifications of bus service in the HRT system, as developed during the *Transit Transformation Project*. A brief description of each classification is provided, followed by guidelines for criteria for classifying routes (additional details for each respective criterion is described below the table). When establishing new service, the proposed route geography can be evaluated using these three criteria which will influence how the route is classified. Service classification is an important element of the service design standards, as it relates to the recommended span and frequency for routes.

Table 1-4: Route Classification

Route Classification	Description	Criteria		
		Interjurisdictional	Population / Job Density	Route Directness
Regional Backbone	The backbone of bus transit throughout the region, traveling on the highest-demand corridors connecting the most people to the most jobs.	Most will cross jurisdictional boundaries.	Greater than 6,500 people + jobs per square mile, averaged across whole route	1.6 or better
Local Priority	Operate along arterials serving a specific community area with connections to the Regional Backbone network.	Can operate within a jurisdiction or cross jurisdictional boundaries.	Between 5,000-6,500 people + jobs per square mile, averaged across whole route	1.8 or better
Coverage	Communities with lower transit demand than the above two categories, but with still enough demand to warrant fixed-route service, will be connected to Local Priority and Regional Backbone routes via Coverage routes.	Mostly within one jurisdiction but can cross jurisdictional boundaries.	Between 4,000-5,000 people + jobs per square mile, averaged across whole route	2.0 or better
Limited/ Express	Bus service with limited stops connecting surrounding communities with downtown areas and other major employment sites or regional destinations, often via interstates. Some routes will operate during peak-hour commuter service only. Typically accessed via park-and-ride lots at the residential end.	Can operate within a jurisdiction or cross jurisdictional boundaries.	Route serves major trip generators and/or collection points	N/A
On-Demand	On-Demand transit service will operate in specified zones, connecting lower-density areas to local destinations and transfer opportunities to fixed-route service.	Can operate within a jurisdiction or cross jurisdictional boundaries.	Densities warrant transit service but are low enough that regular fixed route service would be less effective	N/A

Criteria and Rationale for Route Classification

Interjurisdictional

A route is interjurisdictional if it serves more than one city that HRT serves. Routes which make up the Regional Backbone of transit service tend to be interjurisdictional because they provide key connections across the region. Local Priority routes may or may not be interjurisdictional depending upon the demand for transit. Coverage routes are often located within one jurisdiction because they connect specific lower-demand areas to higher-frequency services within the same jurisdiction.

Overarching guidance: Connections should be made to address demand between origins and destinations regardless of jurisdictional boundaries.

Population/Job Density

Transit services must be located where there is demand for transit. This demand can be measured by the densities of population and jobs. A transit route which serves areas with many desired origins and destinations will produce more ridership compared to a route serving fewer dense origins and destinations. American Community Survey (ACS) data¹¹ and LEHD 2015 data¹² were used to calculate the density of population and jobs within a quarter-mile of the route.

Overarching guidance: All fixed-route service should be designed to serve as many people and destinations as possible, with higher thresholds set for route classifications that offer higher frequency service.

Directness

Benefits of direct routes include that they are simpler for customers to understand and they are more efficient, saving travel time and operating costs compared to circuitous routes. A directness calculation is used to evaluate how far a route strays from a straight path. The directness calculation involves finding the ratio of the length of the actual route against the length between the two endpoints – the more direct a route is, the closer its directness ratio will be to one. For example: 1) a route that travels on a very straight arterial road, without making any deviations off the main path, would have a directness score very close to one because its total length traveled between two endpoints will only be slightly longer than the straight-line distance between the two endpoints, while, 2) a route that travels between the same two endpoints as the first example route but deviates heavily into neighborhoods to collect riders may travel twice the mileage as the first example route, and its directness score would therefore be closer to two.

Overarching guidance: All bus routes should be as direct as possible, with lower directness ratio thresholds set for route classifications that offer higher frequency service.

Service Frequency

The frequency impacts how long customers must wait for bus service, with journeys requiring customers to transfer resulting in more than one wait. Higher frequencies result in shorter customer wait times but increase costs by requiring more buses and operators. Thus, providing more frequency requires balancing route and network productivity, i.e., ridership against the cost.

Frequency warrants are subject to cost effectiveness and should be adjusted based on productivity and passenger load as defined in **Section 1.2.5. Table 1-5** illustrates the headway warrants (time between trips) by route classification. Routes should be designed and scheduled to meet the standards, but available budget may prevent routes from fully meeting them. Routes can also exceed the standards based on demand for higher frequency.

Table 1-5: Service Headway by Route Classification

Time Period			Regional Backbone	Local Priority	Coverage	Limited/Express	On-Demand
Weekday	Peak	6:00 a.m. – 9:00 a.m. 3:00 p.m. – 6:00 p.m.	15 min	30 min	60 min	Demand base	n/a
	Midday	9:00 a.m. – 3:00 p.m.	30 min	30 min	60 min	Demand base	n/a
	Evening	6:00 PM – 11:00 p.m.	30 min	60 min	60 min	Demand base	n/a
Weekend	Base	8:00 a.m. – 6:00 p.m.	30 min	30 min	60 min	Demand base	n/a
	Non-base	6:00 a.m. – 8:00 a.m. 6:00 p.m.– 9:00 p.m.	30 min	60 min	60 min	Demand base	n/a

¹¹ American Community Survey (ACS) 2016 5-year estimates.

¹² Longitudinal Employer-Household Dynamics (LEHD) 2015.

Span of Service

The span of service defines the start and finish of service each day for both specific routes and the network. A longer span of service allows a route to capture more riders throughout the day for a wider variety of trip purposes, but also increases overall costs. It is important that the route spans be coordinated to provide an overall appropriate network to meet time-of-day market needs. **Table 1-6** illustrates the span of service standards by route classification. Routes should be designed and scheduled to meet the standards. Available budget may prevent routes from fully meeting them and routes are evaluated on a case-by-case basis to ensure the span meets the demand for a given route. In some cases, these standards will be applied more so as guidelines. Routes can also exceed the standards based on demand for longer span.

Table 1-6: Span of Service by Route Classification

	Regional Backbone	Local Priority	Coverage	Limited/Express	On-Demand
Weekday	5:00 a.m. – 1:00 a.m.	5:00 a.m. – 11:00 p.m.	5:00 a.m. – 7:00 p.m.	Demand Based	5:00 a.m. – 7:00 p.m.
Weekend	6:00 a.m. – 12:00 a.m.	7:00 a.m. – 11:00 p.m.	8:00 a.m. – 7:00 p.m.	Demand Based	8:00 a.m. – 8:00 p.m.

New Service Warrants

HRT has an adopted policy on how to assess the potential of new services requested by the cities. The purpose of this policy is to plan transit services that will be successful in not only generating additional fare revenue to fund the service, but also in meeting the community’s needs. Five metrics assess the potential for transit service: residential density, employment density, income, home-based work trips to major destinations, and auto availability. Full details of the policy on new service warrants can be found in HRT’s “New Services Request Policy” policy document (PD – 105), approved June 2020.

Operational Considerations

Vehicle Assignment

Passenger vehicles are assigned to routes/blocks of service based on several factors including required vehicle passenger capacity, community or street operating restrictions, operating performance requirements, and special equipment needs. Some routes have special operating restrictions including tight turns or community vehicle size limitations that require smaller vehicle assignments. Higher performing vehicle types may be assigned to blocks of service with more schedule adherence problems. Additionally, certain segments of service may be designated to have buses with special equipment, e.g., branded or wrapped vehicle equipment. After the special vehicle block needs have been addressed, the remaining vehicles are rotated through random assignment to any route/block of service on which the vehicle can travel.

Layover Guidelines

A minimum of ten percent of the round-trip running time is scheduled for layover, while high ridership routes require fifteen percent. All routes will have a minimum of five minutes layover per round trip.

1.2.5. Performance Standards

Service Performance Standards

HRT updated the agency’s Service Performance Standards for route-level evaluation in 2020.¹³ The standards are measured by six Key Performance Indicators (KPI) that fall into three distinct groups: service effectiveness, cost efficiency, and service quality. Each route classification has a minimum benchmark used to evaluate the effectiveness of service. Some benchmark standards for future On-Demand routes have not yet been established and, as noted in the tables, will be developed when On-Demand service is closer to implementation. **Table 1-7** summarizes the KPI’s and their applicable grouping.

Service performance standards are necessary to ensure that all services are fulfilling their roles in the transit network and contributing to the overall financial sustainability of HRT. Performance is measured regularly in order to identify changes in performance over time and to allow prompt changes to be implemented if necessary. Performance standards help ensure that HRT services meet the needs of passengers, while maintaining cost-efficiency for the agency.

Table 1-7: Performance Standard Groups and Key Performance Indicators

Performance Standard Measure	KPI
Service Effectiveness	Passengers per Revenue Hour
	Passengers per One-way Trip
Cost Efficiency	Farebox Recovery
	Subsidy per Passenger Boarding
Service Quality	On-time Performance
	Maximum Load Standards

Passengers per Revenue Hour

The Passengers per Revenue Hour KPI (**Table 1-8**) measures the productivity of a given route based on ridership (unlinked boardings) generated for each hour of service operated. This measure does not apply to Limited/Express routes.

Table 1-8: Passengers per Revenue Hour Performance Standard

KPI	Classification	Benchmark
Passengers per Revenue Hour	Regional Backbone	50% of the service classification average on weekdays and weekends.
	Local Priority	
	Coverage	
	Limited/Express	N/A
	On-Demand	TBD

¹³ “Service Standards and Performance” policy document (PD – 112), updated June 29, 2020.

Passengers per One-way Trip

Limited/Express services (PCS and MAX) should not be evaluated on a passenger per hour basis, as there is generally less passenger turnover on these types of routes, leading to fewer passenger boardings overall. Instead, Limited/Express service is evaluated on a passengers per one-way trip basis (**Table 1-9**). This indicator measures the average passenger boardings per one-way trip. It is useful in evaluating express or “point-to-point” services where passengers board at the start of the trip and alight at the end of the trip, with little activity in between. Using this indicator provides a way to gauge how full the bus is during its journey. A typical HRT MAX vehicle has 40 seats, and effective service should generate enough passengers to fill a majority of those seats.

Table 1-9: Passengers per One-way Trip Performance Standard

KPI	Classification	Benchmark
Passengers per One-way Trip	Regional Backbone	N/A
	Local Priority	
	Coverage	
	Limited/Express	Min. passengers boardings per one-way trip: 20 on weekdays; 15 on weekends.
	On-Demand	N/A

Farebox Recovery

The Farebox Recovery ratio (**Table 1-10**) compares a route’s operating revenue to its operating costs. The difference between the cost to operate the service and the farebox revenue on the service results in the subsidy that HRT’s funding partners must cover.

Table 1-10: Farebox Recovery Performance Standard

KPI	Classification	Benchmark
Farebox Recovery	Regional Backbone	50% of the service classification average on weekdays and weekends.
	Local Priority	
	Coverage	
	Limited/Express	
	On-Demand	TBD

Subsidy per Passenger Boarding

A second way of measuring cost efficiency involves evaluating the operating cost per unlinked passenger boarding, less the average passenger fare (**Table 1-11**). This metric is the level of public subsidy necessary to support each passenger trip.

Table 1-11: Subsidy per Passenger Boarding Performance Standard

KPI	Classification	Benchmark
Subsidy per Passenger Boarding	Regional Backbone	Twice the service classification average on weekdays and weekends.
	Local Priority	
	Coverage	
	Limited/Express	
	On-Demand	TBD

On-time Performance

An on-time performance standard defines a minimum threshold of daily trips by route and for the system that operate on-time (**Table 1-12**). On-time performance reflects both the quality and reliability of service, which can affect whether or not people choose to use transit or continue to use transit. HRT defines “on time” as one minute early to five minutes late at each time-point. This KPI establishes a minimum goal of at least 85 percent of time-points served within this time threshold relative to schedule, at both the route-level and for the system as a whole. Making sure that routes meet this standard results in a positive customer experience while at the same time recognizing that there are operating issues beyond the agency’s control.

Table 1-12: On-time Performance Standard

KPI	Classification	Benchmark
On-time Performance	Regional Backbone	85% on-time performance at all time-points.
	Local Priority	
	Coverage	
	Limited/Express	
	On-Demand	85% on-time performance of pick-ups and drop-offs.

Maximum Load Standards

Passenger load refers to how many people are on the bus at any given moment compared to its seated capacity (**Table 1-13**). High passenger loads result in overcrowded conditions and unsatisfied customers. Service quality issues with crowding are dependent on the amount of time that customers must stand on the bus. If crowding is a relatively brief phenomenon, it does not justify the expense of adding additional service. On the other hand, if passengers are required to consistently stand while on the bus, more service may be needed to alleviate the crowding. For Limited/Express and On-Demand routes, a benchmark of 100 percent of seated capacity is used, as these vehicles are designed for seated passengers only (with the exception of Limited/Express routes that operate on arterial roads rather than limited-access highways, as noted in the table).

Table 1-13: Maximum Load Performance Standard

Key Performance Indicator	Route Classification	Benchmark
Maximum Load	Regional Backbone	125% of seated capacity for two or more miles.
	Local Priority	
	Coverage	
	Limited/Express	100% of seated capacity for two or more miles; 125% if operated along arterial rather than limited-access roadways.
	On-Demand	100% of seated capacity.

Corrective Action Guidelines

Based on a route's performance relative to the KPI's, HRT places each route into one of three categories:

- Low-performing service
- Average-performing service
- High-performing service.

The metrics for determining in which categories the routes fall and remedial actions for each of the three categories of routes are listed in **Table 1-14**. This evaluation process is only performed for the KPI's related to service effectiveness and cost efficiency. This evaluation methodology allows HRT to quickly identify under-performing service and take necessary steps to improve the service. It also ensures that HRT continues to invest in high-performing service.

Table 1-14: Performance Categories for Service Effectiveness and Cost Efficiency KPIs, and Possible Corrective Actions

Category	Metric	Possible Analysis and Corrective Action
Low-performing service	50% of system average and below.	Segment Level and Operational Analyses to identify potential route issues, which could result in: <ul style="list-style-type: none"> ■ Targeted Marketing. ■ Rider Outreach. ■ Change in Service Levels. ■ Discontinuation.
Average-performing service	Between 51% and 149% of system average.	<ul style="list-style-type: none"> ■ Periodic Trip-by-Trip Segment Analysis to identify potential route issues.
High-performing service	150% of system average or better.	<ul style="list-style-type: none"> ■ Increase service levels. ■ Upgrade transit operating environment. ■ Introduce additional service types.

Systemwide Performance Standards

In addition to the route-specific performance standards, the agency has identified system-wide performance measures, shown in **Table 1-15**. These performance measures are intentionally aligned with the goals and objectives outlined in **Section 1.2.2**. These measures, where applicable, are held to the same design standards and performance targets as identified in HRT’s “Service Standards and Performance” policy document (PD – 112), approved June 21, 2019.

Table 1-15: Agency Objectives and Relevant Performance Measures

Objective	Performance Measure
Provide reliable and desirable service, amenities, and information.	On-time Performance
	Missed trips
	Mean distance between failures
	Percentage of bus stops that meet defined amenity standards – shelters, benches, trash cans
	Accuracy and utilization of real time tracking (once launched)
	Utilization rate of mobile ticketing (where available)
Serve people where and when they need to travel.	Number of trips by ADA eligible riders on fixed route transit
	Percentage of routes that are high, medium, low frequency
	Percentage of routes that run past 6pm/8pm (time TBD)
	Percentage of routes that run peak only, 7 days a week, and weekend only
	Ridership by mode and route, trip and jurisdictions
	Average travel time between key destinations and comparison to auto travel
	Comparison of paratransit travel times with fixed route bus
Offer a safe and secure transportation service for all customers.	Number of injuries and rate per total unlinked passenger trips, by mode
	Number of reportable events and rate per total unlinked passenger trips, by mode
	Total number of all accidents and incidents (preventable and non-preventable) per 100,000 miles, by mode
Achieve and maintain a high rate of customer satisfaction.	Number of valid complaints per 100,000 miles system-wide; and by route; by type of complaint, including operator behavior, late bus, etc. (complaints categorized and handled through the customer service center)
	Number of customer service calls for trip planning purposes
Contribute to congestion mitigation and improved mobility.	VMT reduced (TPO model)
	Roadway LOS (TPO model) as compared with population and jobs levels in the region
	Number of trips that connect activity centers or attractions
	Percent of population within a 1/4 mile of a stop served by high frequency service, medium, and any service at all
	Percent of jobs served by high frequency service, medium service, and any service at all
	Percent of activity centers served by high frequency service, medium service, and any service at all
	Passengers per revenue hour

Objective	Performance Measure
Contribute to regional air quality and pollution reduction goals.	VOC and NOX, CO, PM10, PM2.5 reduced as a result of HRT services (data collected and reported by HRTPO)
Build community trust as a valuable partner in a thriving region.	Number of social media postings and impressions generated by staff
	Number of partnerships with business and community organizations
	Level of market reach through media and advertising
Provide cost-efficient transit service that leverages all available resources to offer the best value for the investment	Overhead burden as percent of operating costs
	Average fare per rider / Average fare per GoPass rider
	Average cost per rider
Perform asset management that achieves and maintains a state of good repair and sustainability and maximizes investment impacts.	Mean distance between failures
	Average maintenance cost per vehicle
	Average cost of maintaining facilities and transit centers (per square foot basis)
	Average Energy Use by facility
	Attainment of HRT Transit Asset Management Plan action items
Effectively align and manage resources and processes to maximize workplace productivity and achieve agency goals.	Difference between agency-wide budget to actual (end-of-year)
	Differences between budgets and actual expenses by department
Demonstrate safe and sustainable business practices to ensure long-term viability.	Percent of capital and operating budgets funded by different sources
	Percent of auxiliary revenue target achieved
	Farebox recovery ratio
Continue to change and innovate collaboratively with our partners and stakeholders to improve service to customers.	Number of partnerships with business and community organizations
	Number of outreach events participated
Support an empowered workforce to strengthen core competencies and generate efficiencies and innovation within Hampton Roads Transit.	Number of cross-departmental work teams
	Number of initiatives completed by work teams
	Number of policies and procedures created or enhanced to improve job design, job satisfaction, and job performance
Be an employer of choice in the region and in the industry.	Job acceptance to offer ratio
	Total number of employee referrals by year
	Average tenure by employee type (operator, mechanic, ops supervision, administrative)
	Total number of applications received year over year
Inspire and invest in our workforce and develop future leaders.	Number of workplace injuries
	Number of professional development training sessions held
	Number of online university courses taken

CHAPTER 2

System Performance and Operations Analysis

FY2023 – FY2032



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Contents

2. System Performance and Operations Analysis.....	2-1
2.1 <i>System and Service Data.....</i>	2-1
2.1.1 Fixed-Route Bus Service.....	2-1
2.1.2 Paratransit Service.....	2-12
2.1.3 Ferry Service.....	2-14
2.1.4 Light Rail Service.....	2-15
2.1.5 Route Design and Schedule Standards.....	2-16
2.1.6 Survey Results.....	2-16
2.1.7 Support for Transit.....	2-18
2.2 <i>Evaluation of Transit Market Demand and Underserved Areas.....</i>	2-19
2.2.1 Transit Demand and Underserved Area Evaluation.....	2-19
2.2.2 Transit Demand and Underserved Area Opportunities for Improvement.....	2-51
2.3 <i>Performance Evaluation.....</i>	2-63
2.3.1 Performance Evaluation.....	2-63
2.3.2 Performance-Based Opportunities for Improvement.....	2-83
2.4 <i>Operating and Network Efficiency Evaluation.....</i>	2-85
2.4.1 Efficiency Evaluation.....	2-85
2.4.2 Efficiency Based Opportunities for Improvement.....	2-91
2.5 <i>Analysis of Opportunities to Collaborate with Other Transit Providers.....</i>	2-92
2.5.1 Overview of Collaboration Opportunities.....	2-92
2.5.2 Collaboration Updates.....	2-94
2.5.3 Collaboration Based Opportunities for Improvement.....	2-94
2.6 <i>Supplemental “Essential” Route Analysis.....</i>	2-96
2.6.1 Methodology.....	2-96
2.6.2 Findings.....	2-96
2.6.3 Analysis Limitations.....	2-100

Tables

Table 2-1: HRT Revenue Fleet and Peak Vehicle Need, October 2020.....	2-1
Table 2-2: Weekday Level of Service, November 2020.....	2-2
Table 2-3: Weekend Level of Service, November 2020.....	2-4
Table 2-4: Operating Statistics by Service, October 2020.....	2-6
Table 2-5: Operating Statistics by Route, October 2020.....	2-6
Table 2-6: Annual Ridership by Route, FY 2019.....	2-11
Table 2-7: Operational Statistics for Paratransit Services, FY 2019.....	2-12
Table 2-8: Annual Demand Response Ridership, FY 2019.....	2-13
Table 2-9: Elizabeth River Ferry Summer (Memorial Day–Labor Day) Schedule, FY 2020.....	2-14
Table 2-10: Elizabeth River Ferry Winter (Labor Day–Memorial Day) Schedule, FY 2021.....	2-14
Table 2-11: Operating Statistics for Ferry Service, FY 2019.....	2-14
Table 2-12: The Tide Light Rail Schedule, FY 2021.....	2-15
Table 2-13: Light Rail Operating Statistics, FY 2019.....	2-15
Table 2-14: Service Headway by Route Classification.....	2-16
Table 2-15: Percent Responses by Fare Type.....	2-17
Table 2-16: Percent Responses by Access Mode.....	2-17

Table 2-17: Percent Responses by Destination Type.....	2-18
Table 2-18: Summary of Transit Propensity Indices	2-19
Table 2-19: Transit-Oriented Population Index	2-20
Table 2-20: Commuter Index	2-23
Table 2-21: Workplace Index	2-26
Table 2-22: Non-Work Index	2-29
Table 2-23: Travel Demand Model Classifications	2-37
Table 2-24: Travel Districts with a High Density of All-Day Trip Origins	2-38
Table 2-25: Travel Districts with a High Density of All-Day Trip Destinations	2-38
Table 2-26: Highest Internal All-Day Travel Flows within a District.....	2-42
Table 2-27: Highest External All-Day Travel Flows Between Districts	2-42
Table 2-28: Travel Districts with the Highest Density of Peak Period Trip Origins	2-44
Table 2-29: Travel Districts with a High Density of Peak Period Trip Destinations.....	2-45
Table 2-30: Highest Internal Peak Period Travel Flows within a District	2-48
Table 2-31: Highest External Peak Period Travel Flows within a District	2-49
Table 2-32: System Accessibility to Population and Jobs	2-70
Table 2-33: Service Area Characteristics	2-71
Table 2-34: Fixed Route: Revenue / Non-Revenue Miles	2-73
Table 2-35: Demand Response: Revenue / Non-Revenue Miles	2-74
Table 2-36: Fixed Route: Revenue / Non-Revenue Hours	2-75
Table 2-37: Demand Response: Revenue / Non-Revenue Hours	2-76
Table 2-38: Annual Total Ridership.....	2-77
Table 2-39: Passengers per Revenue Mile.....	2-78
Table 2-40: Passengers per Revenue Hour	2-78
Table 2-41: Total Operating Expenses	2-79
Table 2-42: Subsidy per Passenger	2-82
Table 2-43: FY 2012 to FY 2017 Trend Analysis Summary	2-83
Table 2-44: Southside Max Load, March–May 2016	2-89
Table 2-45: Peninsula: Max Load, March–May 2016.....	2-90
Table 2-46: PCS: Max Load, February–April 2016.....	2-90
Table 2-47: MAX: Max Load, February–April 2016.....	2-90
Table 2-48: Communication Collaboration Opportunities	2-95
Table 2-49: Service Coordination Collaboration Opportunities	2-95
Table 2-50: Route-Level Essentialness Analysis Results – Southside.....	2-98
Table 2-51: Route-Level Essentialness Analysis Results - Peninsula.....	2-100

Figures

Figure 2-1: Operating Expenses and Revenues by Route for Southside Routes, FY 2019	2-9
Figure 2-2: Operating Expenses and Revenues by Route for Peninsula Routes, FY 2019	2-9
Figure 2-3: Operating Expenses and Revenues for VB Wave and Bayfront Shuttle Service, FY 2019	2-10
Figure 2-4: Operating Expense and Revenue for MAX Routes, FY 2019.....	2-10
Figure 2-5: Operating Expense and Revenue for Demand Response Service, FY 2019	2-13
Figure 2-6: Peninsula – Transit-Oriented Population Index.....	2-21
Figure 2-7: Southside – Transit-Oriented Population Index	2-22
Figure 2-8: Peninsula – Commuter Index	2-24
Figure 2-9: Southside – Commuter Index	2-25
Figure 2-10: Peninsula – Workplace Index	2-27
Figure 2-11: Southside – Workplace Index	2-28
Figure 2-12: Peninsula – Non-Work Index	2-30
Figure 2-13: Southside – Non-Work Index.....	2-31

Figure 2-14: Peninsula – Population Density (2045).....	2-33
Figure 2-15: Southside – Population Density (2045)	2-34
Figure 2-16: Peninsula – Employment Density (2045).....	2-35
Figure 2-17: Southside – Employment Density (2045)	2-36
Figure 2-18: Density of All-Day Trip Origins.....	2-39
Figure 2-19: Density of All-Day Trip Destinations	2-40
Figure 2-20: All-Day Travel Flow Volume Between Districts	2-43
Figure 2-21: Density of Peak Period Trip Origins	2-46
Figure 2-22: Density of Peak Period Trip Destinations	2-47
Figure 2-23: Volume of Peak Period Travel Between Districts	2-50
Figure 2-24: Peninsula – All-Day Service Index.....	2-53
Figure 2-25: Southside – All-Day Service Index	2-54
Figure 2-26: Peninsula – Peak Service Index.....	2-55
Figure 2-27: Southside – Peak Service Index	2-56
Figure 2-28: Peninsula – Multimodal Service Index	2-57
Figure 2-29: Southside – Multimodal Service Index	2-58
Figure 2-30: All-Day Service Gaps.....	2-60
Figure 2-31: Peak Service Gaps.....	2-62
Figure 2-32: Passengers per Revenue Hour, FY 2019	2-64
Figure 2-33: Passengers per Revenue Mile, FY 2019	2-65
Figure 2-34: Passengers per One-Way Trip, FY 2019.....	2-66
Figure 2-35: Farebox Recovery Ratio, FY 2019	2-68
Figure 2-36: Subsidy per Passenger, FY 2019	2-69
Figure 2-37: Preventable and Non-Preventable Accidents, FY 2013-FY 2019	2-70
Figure 2-38: Vehicles Operated in Maximum Service.....	2-72
Figure 2-39: Fixed-Route: Percentage of Vehicle Revenue and Non-Revenue Miles	2-73
Figure 2-40: Demand Response: Percentage of Vehicle Revenue and Non-Revenue Miles	2-74
Figure 2-41: Fixed Route Percentage of Vehicle Revenue and Non-Revenue Hours	2-75
Figure 2-42: Demand Response Percentage of Vehicle Revenue and Non-Revenue Hours	2-76
Figure 2-43: Operating Expenses per Passenger Trip	2-80
Figure 2-44: Fixed-Route Fare Revenue / Cost-Recovery Ratio	2-81
Figure 2-45: Demand Response Fare Revenue / Cost Recovery Ratio	2-81
Figure 2-46: On-Time Performance by Southside Route, August 2019	2-85
Figure 2-47: On-Time Performance by Peninsula Route, August 2019	2-86
Figure 2-48: On-Time Performance by PCS Route, August 2019.....	2-86
Figure 2-49: On-Time Performance by MAX Route, August 2019	2-87
Figure 2-50: On-Time Performance by Trolley Route, August 2019.....	2-87
Figure 2-51: Essentialness Analysis Results – Southside	2-97
Figure 2-52: Essentialness Analysis Results – Peninsula.....	2-99

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2. System Performance and Operations Analysis

2.1 System and Service Data

Covering the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach, HRT has a service area of approximately 432 square miles and a population of approximately 1.14 million people, with an overall population density of approximately 2,667 people per square mile.¹ A detailed analysis of current and future regional population density is included in **Section 2.2.1**.

The following section summarizes HRT’s existing system and service data. From March 31 to June 14, 2020, HRT implemented an Essential Service Plan which provided reduced levels of service because of the COVID-19 pandemic. Fares were free from March 31 to July 1, 2020. Regular levels of service were operated from June 14, 2020 through May 8, 2021. On May 9, 2021 HRT began the Service Reliability Plan because of reduced operator availability due to the COVID-19 pandemic. The Service Reliability Plan is designed to match the level of service to operator availability so reliable service can be delivered with fewer missed trips. The Essential Service Plan and Service Reliability Plan service data are not reflected in the service data in the TSP since they are temporary changes of service.

HRT’s fixed-route bus service includes 50 local routes, nine Metro Area Express (MAX) regional express routes, five Peninsula Commuter Service (PCS) routes, and three seasonal routes in Virginia Beach (VB Wave and Bayfront Shuttle, which operate from May through September)². HRT also operates a light rail, The Tide, in Norfolk and a ferry across the Elizabeth River to connect Downtown Portsmouth and Downtown Norfolk. HRT’s demand response program is a shared ride paratransit service serving the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach to and from locations within three-quarter miles of existing fixed-route bus, light rail, and ferry service during HRT’s regular operating hours. HRT has a total of 409 revenue vehicles. The fleet size and peak vehicle need by mode is shown in **Table 2-1**.

Table 2-1: HRT Revenue Fleet and Peak Vehicle Need, October 2020

Mode	Fleet Size	Peak Vehicle Need
Bus	287	234
Light Rail	9	6
Ferry	3	2
Paratransit	110	68 ³
Total	409	310

2.1.1 Fixed-Route Bus Service

The following section summarizes fixed-route service information, including level of service, operating costs, vehicles in peak service, ridership, revenue hours, total hours, revenue miles, and directional route mileage. HRT operates fixed-route service seven days a week. Weekday service runs between 4:25 a.m. and 2:00 a.m. The time that service operates varies between the six member jurisdictions, as each city determines how early/late the service runs. Local routes operate on 15- to 60-minute headways during morning and afternoon peak periods. Southside routes include those that operate in Chesapeake, Norfolk, Portsmouth, and Virginia Beach; Peninsula routes operate in Hampton and Newport News. **Table 2-2** and **Table 2-3** summarize span of service and headways by service day and time periods for individual HRT fixed route bus routes. HRT time periods are defined as:

- **Early:** before 6:00 a.m.
- **AM Peak:** 6:00 a.m.–9:00 a.m.
- **Base:** 9:00 a.m.–3:00 p.m.
- **PM Peak:** 3:00 p.m.–6:00 p.m.
- **Evening:** 6:00 p.m.–11:00 p.m.
- **Late Night:** after 11:00 p.m.

¹ NTD, 2017. HRT Agency Profile. Accessed at https://www.transit.dot.gov/sites/fta.dot.gov/files/transit_agency_profile_doc/2017/30083.pdf.

² These figures are current as of November 2021. The VB Wave and Bayfront Shuttle did not operate in summer 2020 due to the COVID-19 pandemic.

³ COVID-19 has significantly decreased demand and therefore the peak vehicle requirements for paratransit service.

Table 2-2: Weekday Level of Service, November 2020

Route	Span (* denotes Friday service ends later)	Headway (minutes)						Number of One-Way Daily Trips
		Early	AM Peak	Base	PM Peak	Evening	Late Night	
Southside Services								
1	4:44 a.m.–1:30 a.m.	30	15	30	15	40	60	93
2	4:51 a.m.–11:42 p.m.*	30	30	30	30	49	60	67
3	4:51 a.m.–12:35 a.m.*	30	15	30	15	49	60	89
4	6:00 a.m.–10:51 p.m.	—	60	60	60	60	—	34
5	6:12 a.m.–6:14 p.m.	—	60	60	60	60	—	24
6	5:30 a.m.–11:50 p.m.*	30	30	60	30	60	60	52
8	5:18 a.m.–12:14 a.m.*	30	30	30	30	42	60	67
9	5:48 a.m.–11:11 p.m.*	30	30	30	30	43	60	64
11	6:05 a.m.–6:30 p.m.	—	60	60	60	60	—	25
12	5:48 a.m.–9:35 p.m.	60	60	60	60	60	—	31
13	4:48 a.m.–12:43 a.m.	60	30	60	30	60	60	54
14	6:17 a.m.–7:09 p.m.	—	60	60	60	60	—	26
15	4:48 a.m.–1:18 a.m.	30	15	30	15	30	60	96
18	5:42 a.m.–10:38 p.m.	60	60	60	60	60	—	34
20	4:52 a.m.–1:15 a.m.	30	15	30	15	60	60	91
21	5:11 a.m.–1:17 a.m.	30	30	30	30	60	60	69
22	6:03 a.m.–6:56 p.m.	—	60	60	60	60	—	26
23	5:04 a.m.–1:06 a.m.*	30	30	30	30	48	60	69
24	7:00 a.m.–9:40 p.m.	—	30	60	30	60	—	38
25	6:02 a.m.–11:55 p.m.*	—	60	60	60	60	60	37
26	6:29 a.m.–6:45 p.m.	—	30	30	30	30	—	48
27	5:48 a.m.–11:54 p.m.*	30	30	60	30	60	60	47
29	6:48 a.m.–10:15 p.m.	—	60	60	60	60	—	31
33	6:16 a.m.–10:58 p.m.	—	60	60	60	60	—	33
36	5:48 a.m.–10:41 p.m.	30	30	60	30	60	—	45
41	5:56 a.m.–6:53 p.m.	60	60	60	60	60	—	26
43	6:36 a.m.–6:23 p.m.	—	60	60	60	60	—	24
44	6:14 a.m.–10:04 p.m.	—	60	60	60	60	—	31
45	4:39 a.m.–11:54 p.m.	30	15	30	15	30	60	90
47	5:49 a.m.–10:30 p.m.	30	15	30	15	30	—	77
50	6:03 a.m.–6:55 p.m.	—	60	60	60	60	—	26
55	6:30 a.m.–7:56 p.m.	—	60	60	60	60	—	27
57	6:19 a.m.–7:17 p.m.	—	60	60	60	60	—	25
58	5:48 a.m.–7:10 p.m.	60	60	60	60	60	—	27
Peninsula Services								
64	5:00 a.m.–6:32 a.m.; 3:40 p.m.–5:30 p.m.	4 Trips	—	—	4 Trips	—	—	8

Route	Span (* denotes Friday service ends later)	Headway (minutes)						Number of One-Way Daily Trips
		Early	AM Peak	Base	PM Peak	Evening	Late Night	
101	5:15 a.m.–12:10 a.m.	30	35	35	35	60	60	60
102	6:19 a.m.–8:10 p.m.	—	60	60	60	60	—	28
103	5:15 a.m.–11:52 p.m.	30	30	30	30	30	60	67
104	5:45 a.m. – 10:41 p.m.	30	30	30	30	30	—	62
105	6:12 a.m.–12:13 a.m.	—	60	60	60	60	60	37
106	5:09 a.m.–12:49 a.m.	20	60	60	60	60	60	40
107	6:22 a.m.–12:13 a.m.	60	60	60	60	60	60	34
108	5:55 a.m.–11:31 p.m.	60	60	60	60	60	60	35
109	6:51 a.m.–10:07 p.m.	—	60	60	60	60	—	30
110	6:00 a.m.–10:50 p.m.	—	60	60	60	60	60	33
111	6:54 a.m.–10:48 p.m.	—	60	60	60	60	—	32
112	4:55 a.m.–12:57 a.m.	30	30	30	30	30	60	68
114	6:20 a.m.–11:38 p.m.	—	30	30	30	60	60	60
115	5:45 a.m.–12:07 a.m.	60	60	60	60	60	60	37
116	5:45 a.m.–12:08 a.m.	60	60	60	60	60	60	38
117	6:15 a.m.–7:38 p.m.	—	60	60	60	60	—	28
118	6:15 a.m.–10:13 p.m.	—	60	60	60	60	—	32
120	7:10 a.m.–8:48 p.m.	—	60	60	60	60	—	28
VB Wave and Bayfront Shuttle Services								
30	8:01 a.m.–2:06 a.m.	—	15	15	15	15	15	218
31	9:30 a.m.–11:10 p.m.	—	20	20	20	20	20	82
35	7:50 a.m.–12:47 a.m.	—	30	30	30	30	30	44
Peninsula Commuter Services (PCS)								
403	5:28 a.m.–6:18 a.m.	1 Trip	—	—	—	—	—	1
405	5:50 a.m.–6:31 a.m.; 3:40 p.m.–4:38 p.m.	1 Trip	—	—	1 Trip	—	—	2
414	5:20 a.m.–7:49 a.m.; 3:40 p.m.–6:12 p.m.	2 Trips	—	—	3 Trips	—	—	5
415	3:45 p.m.–4:27 p.m.	—	—	—	1 Trip	—	—	1
430	5:35 a.m.–6:30 a.m.; 3:40 p.m.–4:24 p.m.	2 Trips	—	—	1 Trip	—	—	3
Metro Area Express (MAX) Services								
121	5:30 a.m.–7:00 a.m.; 3:40 p.m.–5:50 p.m.	1 Trip	1 Trip	—	2 Trips	—	—	4
919	5:10 a.m.–7:26 a.m.; 2:54 p.m.–5:03 p.m.	3 Trips	—	—	4 Trips	—	—	7
922	5:00 a.m.–7:13 a.m.; 2:55 p.m.–4:42 p.m.	4 Trips	—	—	3 Trips	—	—	7
960	5:35 a.m.–8:19 p.m.	60	60	60	60	60	—	30

Route	Span (* denotes Friday service ends later)	Headway (minutes)						Number of One-Way Daily Trips
		Early	AM Peak	Base	PM Peak	Evening	Late Night	
961	4:55 a.m.–11:12 p.m.	30	30	52	30	60	60	50
966	5:20 a.m.–6:31 a.m.; 3:40 p.m.–5:03 p.m.	2 Trips	—	—	2 Trips	—	—	4
967	4:25 a.m.–7:09 a.m.; 3:00 p.m.–6:24 p.m.	6 Trips	—	—	7 Trips	—	—	13
972	5:15 a.m.–6:17 a.m.; 3:40 p.m.–4:58 p.m.	1 Trip	—	—	1 Trip	—	—	2

Table 2-3: Weekend Level of Service, November 2020

Route	Saturday			Sunday		
	Span	Headway	Number of One-Way Daily Trips	Span	Headway	Number of One-Way Daily Trips
Southside Services						
1	4:40 a.m.–1:31 a.m.	30	68	5:37 a.m.–1:30 a.m.	60	38
2	5:11 a.m.–1:09 a.m.	60	40	5:28 a.m.–12:20 a.m.	60	37
3	5:21 a.m.–1:27 a.m.	30	65	5:59 a.m.–12:31 a.m.	60	36
4	7:00 a.m.–10:51 p.m.	60	32	8:00 a.m.–10:49 p.m.	67	26
5	7:17 a.m.–6:12 p.m.	60	22	—	—	—
6	5:32 a.m.–12:42 a.m.	60	39	5:54 a.m.–6:38 p.m.	60	26
8	5:42 a.m.–12:44 a.m.	30	65	6:40 a.m.–8:57 p.m.	60	28
9	5:32 a.m.–12:12 a.m.	60	37	—	—	—
11	6:05 a.m.–6:27 p.m.	60	25	8:40 a.m.–5:39 p.m.	60	18
12	5:48 a.m.–9:35 p.m.	60	31	—	—	—
13	5:26 a.m.–12:43 a.m.	60	38	5:52 a.m.–10:36 p.m.	60	34
14	6:17 a.m.–7:02 p.m.	60	26	—	—	—
15	5:18 a.m.–12:48 a.m.	30	66	6:46 a.m.–12:42 a.m.	60	36
18	6:16 a.m.–10:18 p.m.	60	32	—	—	—
20	5:22 a.m.–1:14 a.m.	30	65	6:23 a.m.–1:13 a.m.	60	36
21	5:12 a.m.–1:22 a.m.	30	68	6:43 a.m.–1:21 a.m.	60	36
22	6:03 a.m.–6:50 p.m.	60	25	—	—	—
23	5:04 a.m.–1:11 a.m.	30	67	5:53 a.m.–8:58 p.m.	60	30
24	7:00 a.m.–10:23 p.m.	60	30	8:00 a.m.–7:55 p.m.	60	23
25	6:07 a.m.–12:55 a.m.	60	37	—	—	—
26	7:32 a.m.–6:46 p.m.	30	45	—	—	—
27	5:48 a.m.–1:03 a.m.	60	38	—	—	—
29	6:48 a.m.–10:21 p.m.	60	31	—	—	—
33	6:26 a.m.–10:53 p.m.	60	33	—	—	—
36	6:10 a.m.–10:43 p.m.	60	32	—	—	—

Route	Saturday			Sunday		
	Span	Headway	Number of One-Way Daily Trips	Span	Headway	Number of One-Way Daily Trips
41	6:03 a.m.–6:55 p.m.	60	26	—	—	—
43	6:47 a.m.–6:01 p.m.	60	23	—	—	—
44	6:14 a.m.–10:04 p.m.	60	31	7:00 a.m.–7:45 p.m.	60	24
45	5:10 a.m.–12:51 a.m.	30	68	6:06 a.m.–10:51 p.m.	60	32
47	6:03 a.m.–10:30 p.m.	30	58	6:33 a.m.–7:30 p.m.	60	26
50	7:03 a.m.–6:29 p.m.	60	23	7:00 a.m.–6:20 p.m.	60	23
55	7:48 a.m.–8:12 p.m.	60	25	—	—	—
57	6:18 a.m.–7:19 p.m.	60	25	—	—	—
58	5:48 a.m.–7:10 p.m.	60	27	—	—	—
Peninsula Services						
101	5:15 a.m.–12:10 a.m.	35	57	5:45 a.m.–8:08 p.m.	60	29
102	7:19 a.m.–7:10 p.m.	60	24	—	—	—
103	5:15 a.m.–11:52 p.m.	30	67	7:15 a.m.–7:52 p.m.	60	26
104	5:45 a.m.–10:41 p.m.	30	61	5:45 a.m.–7:43 p.m.	60	28
105	6:15 a.m.–12:13 a.m.	60	35	8:15 a.m.–8:13 p.m.	60	22
106	5:09 a.m.–12:49 a.m.	60	39	5:45 a.m.–7:48 p.m.	60	26
107	6:22 a.m.–12:13 a.m.	60	34	7:15 a.m.–8:05 p.m.	60	25
108	5:55 a.m.–11:31 p.m.	60	35	6:35 a.m.–7:02 p.m.	60	24
109	7:47 a.m.–9:10 p.m.	60	27	6:47 a.m.–7:10 p.m.	60	25
110	7:00 a.m.–10:50 p.m.	60	31	8:00 a.m.–7:48 p.m.	60	22
111	7:00 a.m.–10:39 p.m.	60	30	8:01 a.m.–7:31 p.m.	60	22
112	4:55 a.m.–12:57 a.m.	30	66	6:28 a.m.–8:33 p.m.	60	27
114	6:45 a.m.–11:32 p.m.	30	57	6:45 a.m.–7:30 p.m.	60	26
115	6:11 a.m.–10:08 p.m.	60	32	8:11 a.m.–7:37 p.m.	60	23
116	7:00 a.m.–11:37 p.m.	60	35	—	—	—
117	8:15 a.m.–7:38 p.m.	60	24	8:15 a.m.–6:38 p.m.	60	22
118	6:15 a.m.–10:13 p.m.	60	32	8:15 a.m.–7:13 p.m.	60	21
120	8:10 a.m.–8:48 p.m.	60	26	8:10 a.m.–6:48 p.m.	60	22
VB Wave and Bayfront Shuttle Services						
30	8:01 a.m.–2:06 a.m.	15	218	8:01 a.m.–2:06 a.m.	15	218
31	9:30 a.m.–11:10 p.m.	20	82	9:30 a.m.–11:10 p.m.	20	82
35	7:50 a.m.–12:47 a.m.	30	44	7:50 a.m.–12:47 a.m.	30	44
Metro Area Express (MAX) Services						
960	6:30 a.m.–8:19 p.m.	60	28	7:50 a.m.–8:44 p.m.	60	27
961	4:58 a.m.–10:57 p.m.	30	48	7:00 a.m.–8:58 p.m.	60	28

Operating Statistics

HRT's fixed-route services operate out of three garages; the two year-round operating facilities are in Norfolk and in Hampton, with another small seasonal (summer) facility in Virginia Beach. The agency has a 234 fixed-route peak vehicle need during the summer season and a 222 fixed-route peak vehicle need all other times. Annually, the HRT fixed-route services operate approximately nine million revenue miles and 750,000 revenue hours. The majority of this service is operated in the Southside. **Table 2-4** summarizes key operational statistics for HRT's fixed route buses.

Table 2-4: Operating Statistics by Service, October 2020

Service	Peak Vehicle Need	Annual Revenue Miles	Annual Revenue Hours
Southside Services	147	5,567,443	474,738
Peninsula Services	44	2,624,613	215,764
VB Wave and Bayfront Shuttle Services (seasonal)	13	193,694	23,786
Peninsula Commuter Services (PCS) ⁴	2	49,939	2,558
Metro Area Express (MAX) Services	28	546,202	40,127
Total	234	8,981,891	756,973

Route 20 has the highest daily weekday peak vehicle need at 20 vehicles and operates the most revenue miles and hours compared to any other route in the system. In general, PCS and MAX Services operate longer one-way trips compared to the local fixed-route services. **Table 2-5** shows route-level peak vehicle need, average one-way trip route mileage, and annual revenue hours and miles for HRT's fixed-route bus services.

Table 2-5: Operating Statistics by Route, October 2020

Route	Peak Vehicle Need	Route Length: Average One-Way Trip (miles)	Annual Revenue Miles	Annual Revenue Hours
Southside Services				
1	10	23.6	419,828	35,700
2	4	10.2	207,102	19,445
3	7	17.2	389,491	27,628
4	1	4.9	57,783	5,964
5	1	6.8	48,919	3,625
6	3	10.0	122,403	11,941
8	4	8.2	171,450	16,530
9	6	9.5	164,840	16,745
11	1	3.7	32,158	4,289
12	2	14.4	135,044	9,291
13	3	9.8	118,650	12,322
14	3	15.6	119,062	7,714
15	9	15.4	375,656	31,729
18	2	5.7	57,220	5,301
20	20	23.6	598,880	54,594
21	5	13.0	247,413	26,389
22	3	12.8	95,298	7,727

⁴ Peak vehicle need is calculated for the PM peak period. The low numbers reflect the fact that there are few Peninsula Commuter Service routes which operate during this period.

Route	Peak Vehicle Need	Route Length: Average One-Way Trip (miles)	Annual Revenue Miles	Annual Revenue Hours
23	6	11.9	285,187	27,133
24	5	17.1	210,317	12,176
25	2	12.4	127,286	11,177
26	6	5.3	64,800	5,669
27	3	7.7	101,759	6,663
29	4	14.2	135,604	8,563
33	1	18.2	181,040	14,201
36	4	8.1	100,071	8,478
41	2	11.9	93,511	7,802
43	1	3.9	28,068	3,610
44	3	15.0	128,671	9,678
45	7	11.2	284,839	26,852
47	12	9.0	174,136	15,626
50	1	6.0	48,472	4,281
55	1	6.7	53,364	4,034
57	4	15.9	117,490	7,633
58	1	8.6	71,631	4,228
Peninsula Services				
64	2	34.8	35,997	1,616
101	3	9.1	152,035	11,077
102	1	7.5	51,899	4,327
103	3	10.1	189,764	16,820
104	3	8.1	161,640	14,426
105	2	12.7	147,750	11,774
106	3	17.5	237,450	18,698
107	2	16.1	192,575	15,328
108	2	8.8	105,214	11,056
109	1	4.4	45,852	4,207
110	2	12.9	140,642	10,998
111	2	13.6	142,834	10,923
112	5	16.0	348,384	26,933
114	4	10.1	194,289	19,190
115	1	8.0	98,333	6,115
116	4	16.7	169,900	15,765
117	1	3.1	24,786	2,382
118	2	12.6	137,960	10,770
120	1	4.9	47,309	3,359
121	1	37.0	35,699	945
VB Wave and Bayfront Shuttle Services				
30	7	3.0	78,535	12,883
31	2	4.9	32,691	3,007
35	4	16.2	82,468	7,896

Route	Peak Vehicle Need	Route Length: Average One-Way Trip (miles)	Annual Revenue Miles	Annual Revenue Hours
Peninsula Commuter Services (PCS)				
403	0	15.7	3,944	211
405	0	16.1	7,705	480
414	2	20.2	25,336	1,192
415	0	12.7	3,159	188
430	0	14.2	9,795	487
Metro Area Express (MAX) Services				
919	4	20.9	38,228	1,494
922	3	23.8	43,831	1,733
960	2	20.8	218,399	10,312
961	8	29.7	48,421	20,400
966	2	33.2	32,073	1,068
967	7	39.4	110,889	3,663
972	1	39.2	18,662	512
Total	234	-	8,981,891	756,973

Operating Costs

An analysis of operating expenses and revenues can elicit an understanding of how cost-efficiently HRT services are operating. In FY 2019⁵ fixed-route service operating expenses totaled over \$68 million, with farebox revenue generating just over \$12 million, covering approximately 18 percent of the operating costs. **Figure 2-1** through **Figure 2-4** show operating expenses and revenues by route for FY 2019 for fixed-route bus services.⁶

⁵ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

⁶ Data is not available for PCS routes.

Figure 2-1: Operating Expenses and Revenues by Route for Southside Routes, FY 2019

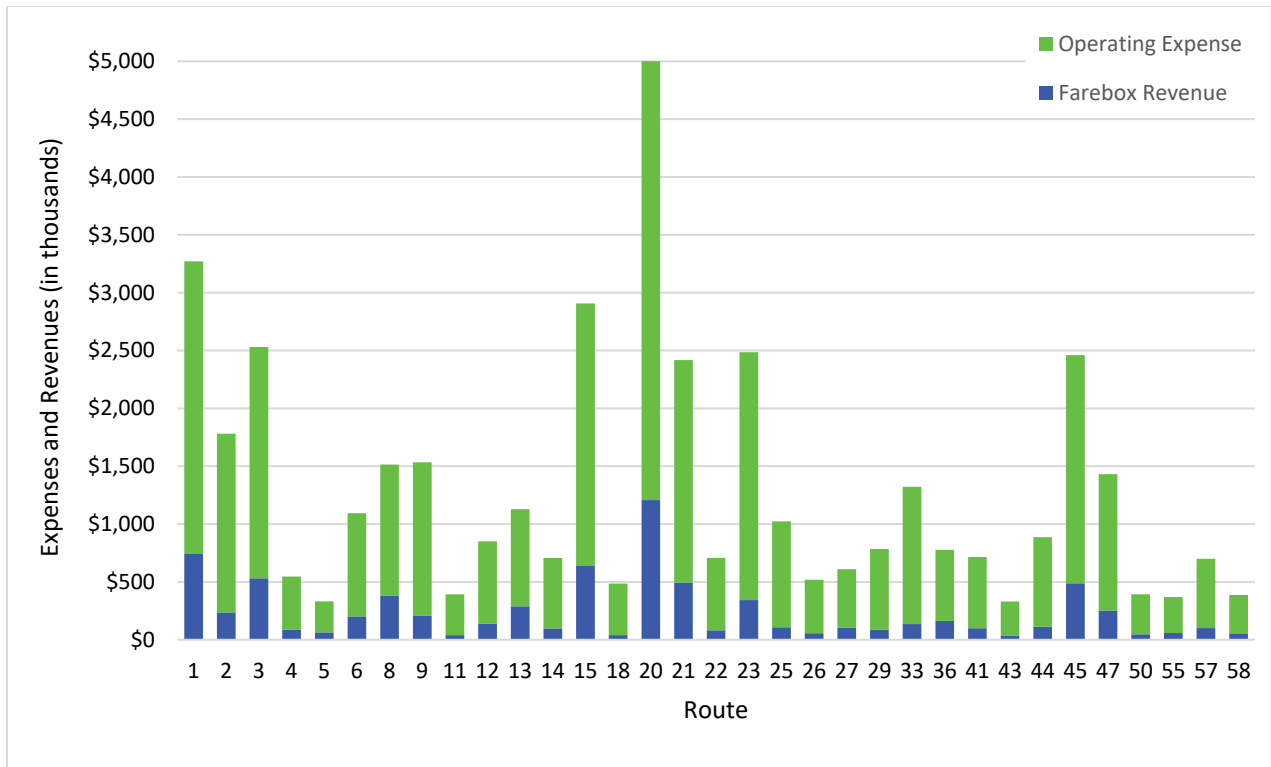


Figure 2-2: Operating Expenses and Revenues by Route for Peninsula Routes, FY 2019

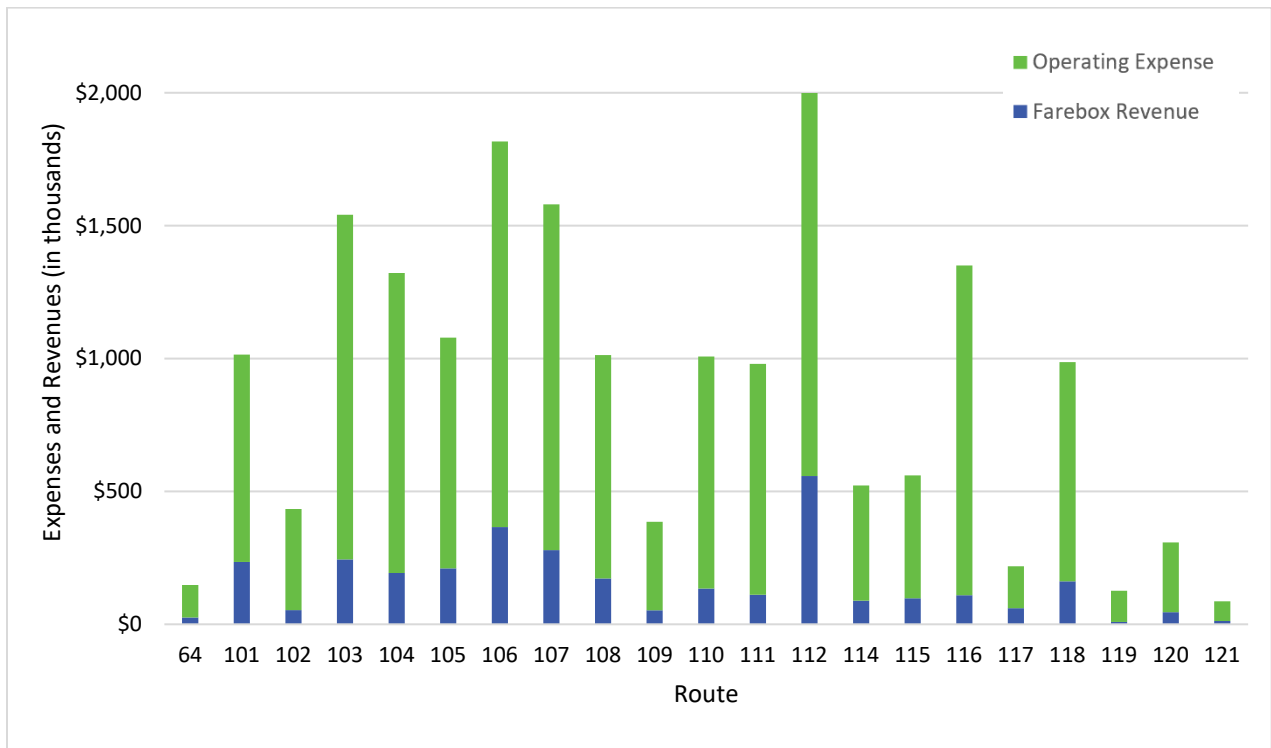




Figure 2-3: Operating Expenses and Revenues for VB Wave and Bayfront Shuttle Service, FY 2019

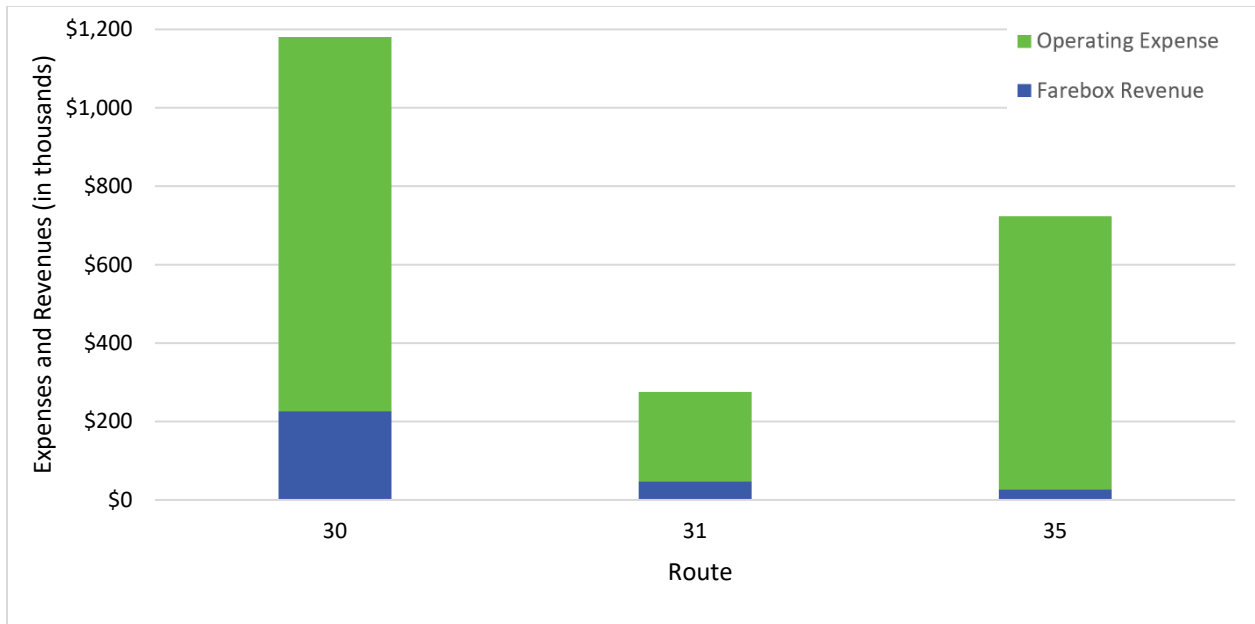
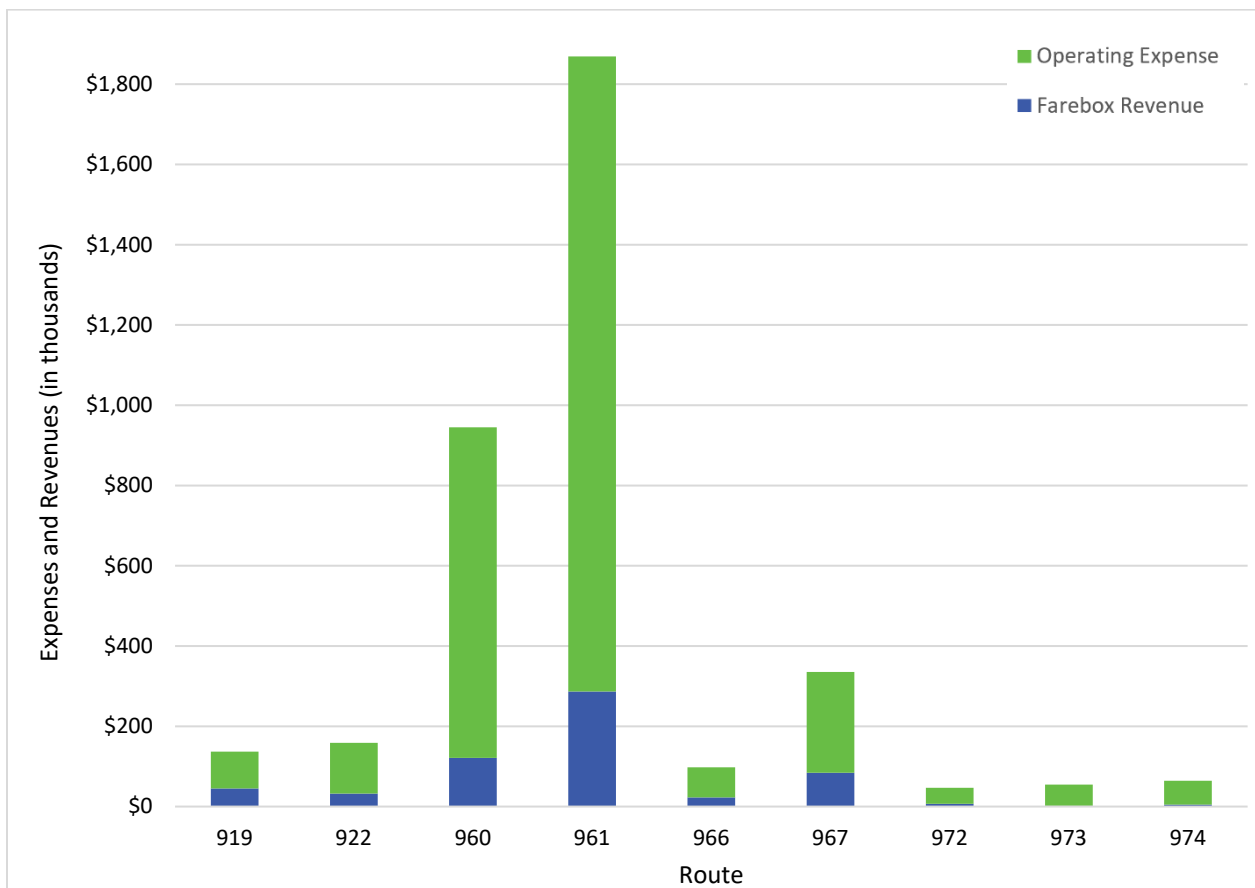


Figure 2-4: Operating Expense and Revenue for MAX Routes, FY 2019



Annual Ridership

In FY 2019⁷, HRT's Southside, Peninsula, PCS, MAX, and VB Wave routes served a combined total of over 11 million riders. FY 2019 ridership was:

- **Southside:** 7,100,293
- **Peninsula:** 3,224,922
- **PCS:** 85,054
- **MAX:** 389,558
- **VB Wave:** 277,070

Route 20 (Downtown Norfolk/Virginia Beach Oceanfront) had the highest overall ridership in FY 2019 with more than one million riders, representing 9.3 percent of all HRT fixed-route bus ridership. In terms of ridership, Route 20 is followed by Route 1 (Downtown Norfolk/Pembroke East) and Route 15 (Evelyn Butts to Robert Hall / Greenbrier Mall); combined, these three routes account for over 20 percent of all HRT fixed-route bus ridership. Ridership and rank for each route is shown in **Table 2-6**.

Table 2-6: Annual Ridership by Route, FY 2019

Route	Annual Ridership	System Rank	Route	Annual Ridership	System Rank
Southside Services					
1	697,288	2	43	39,065	55
2	214,975	17	44	105,727	31
3	500,937	4	45	454,224	7
4	85,562	39	47	235,240	15
5	62,204	44	50	47,046	53
6	188,974	21	55	50,556	49
8	367,093	8	57	91,603	36
9	193,928	20	58	51,985	48
11	41,898	54	64	22,341	60
12	118,540	28	Peninsula Services		
13	265,055	12	101	233,440	16
14	88,026	38	102	55,134	47
15	588,446	3	103	243,204	14
18	37,520	56	104	181,691	22
20	1,029,178	1	105	199,351	19
21	470,520	6	106	314,878	11
22	73,399	42	107	254,451	13
23	324,459	10	108	139,414	25
25	97,330	33	109	56,172	46
26	48,913	50	110	134,706	27
27	93,781	35	111	108,883	29
29	75,153	40	112	497,207	5
33	107,895	30	114	336,096	9
36	137,069	26	115	98,516	32
41	94,363	34	116	90,448	37
			117	61,122	45

⁷ These data have not been updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

Route	Annual Ridership	System Rank
118	152,853	24
119	8,944	67
120	47,308	52
121	11,104	65
VB Wave and Bayfront Shuttle Services		
30	205,588	18
31	47,846	51
35	23,636	58
Peninsula Commuter Services (PCS)		
403	10,950	66
405	14,957	63
414	22,574	59

Route	Annual Ridership	System Rank
415	8,124	68
430	28,449	57
Metro Area Express (MAX) Services		
919	20,275	62
922	14,551	64
960	69,252	43
961	180,153	23
966	22,206	61
967	73,692	41
972	6,566	69
973	814	71
974	2,049	70

2.1.2 Paratransit Service

HRT's paratransit service operates during the same hours and days as the regularly scheduled fixed-route service. HRT paratransit serves areas within three-quarters of a mile of any fixed route. HRT contracts out both the call center, which takes all the trip requests and creates the daily scheduling, and the daily operations. The service transports passengers using accessible lift vans and sedans that are a combination of owned and leased vehicles.

Operating Statistics

Paratransit services accounts for approximately 25 percent of the revenue hours and miles across all of HRT's modes. **Table 2-7** details the peak vehicle need and revenue miles for HRT's paratransit services.

Table 2-7: Operational Statistics for Paratransit Services, FY 2019

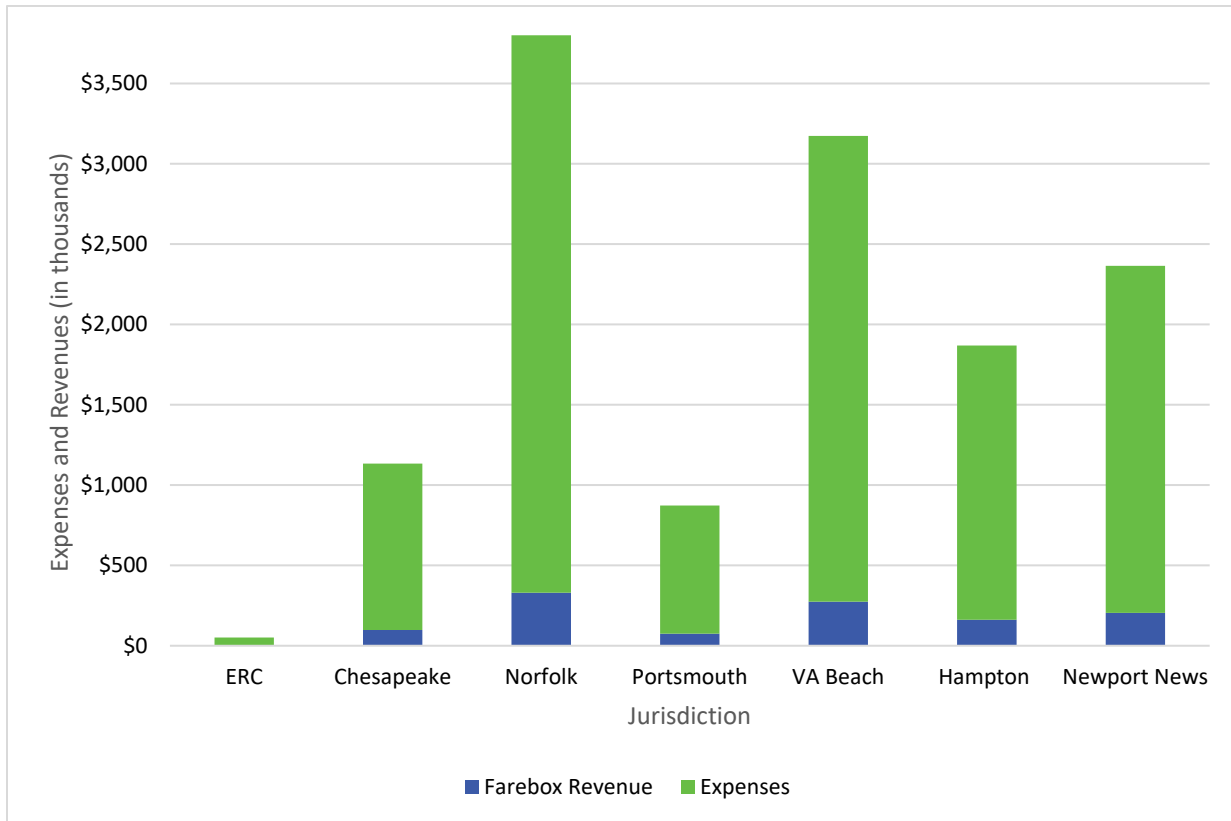
Peak Vehicle Need ⁸	Revenue Miles	Total Hours
103	3,719,272	266,860

Operating Costs

In FY 2019, demand response operating expenses totaled \$13,281,517. Operating expenses and revenues for demand response service for each jurisdiction are shown in **Figure 2-5**.⁹

⁸ As of May 2019.

⁹ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

Figure 2-5: Operating Expense and Revenue for Demand Response Service, FY 2019¹⁰


Annual ridership

In FY 2019, HRT carried 373,376 passengers on its paratransit service. Of the jurisdictions, Norfolk had the highest paratransit ridership, followed by Virginia Beach and Newport News. Annual ridership for paratransit service broken down by jurisdiction is shown in **Table 2-8**.¹¹

Table 2-8: Annual Demand Response Ridership, FY 2019

Jurisdiction	Ridership	System Rank
Chesapeake	32,109	5
Hampton	52,504	4
Newport News	66,479	3
Norfolk	107,711	1
Portsmouth	24,652	6
Virginia Beach	89,358	2

¹⁰ An agreement with the Elizabeth River Crossings (ERC) Opco, LLC. was signed in December 2013 in which ERC provides approximately \$2.3 million of financial support annually to HRT for enhanced transit services between Norfolk and Portsmouth that travel through the Downtown Tunnel and Midtown Tunnel. The additional revenue from ERC provides for an increased span of service and frequency of some of the most productive routes traveling between Portsmouth and Norfolk (Routes 44, 45 and 47). Part of ERC's agreement with the Commonwealth of Virginia when they applied for a TIFIA loan was the requirement that ERC would provide financial support to promote the utilization of transit by providing financial assistance on an annual basis to enhance transit services between Portsmouth and Norfolk. ERC farebox revenue totaled \$4,446 and expenses totaled \$51,386 in FY 2019.

¹¹ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

2.1.3 Ferry Service

HRT contracts with Norfolk-by-Boat to provide service on three 100-passenger ferries on the Elizabeth River between Norfolk and Portsmouth. Ferries operate seven days a week year-round and offer higher frequency during the summer months, as shown in **Table 2-9** and **Table 2-10**. HRT also runs ferry service to Harbor Park when the Norfolk Tides play a home game; ferries run every 30 minutes for one hour before the game begins and run until the game ends.

Table 2-9: Elizabeth River Ferry Summer (Memorial Day–Labor Day) Schedule, FY 2020¹²

Day	Span	Headway (minutes)	Number of Daily Trips
Monday - Thursday	5:30 a.m.–11:45 p.m.	30	37
Friday	5:30 a.m.–4:00 p.m.; 10:00 p.m.–11:45 p.m.	30	48
	4:00 p.m.–10:00 p.m.	15	
Saturday	10:00 a.m.–2:00 p.m.; 8:00 p.m.–11:45 p.m.	30	38
	2:00 p.m.–8:00 p.m.	15	
Sunday	10:00 a.m.–12:00 p.m.; 6:00 p.m.–11:45 p.m.	30	38
	12:00 p.m.–6:00 p.m.	15	

Table 2-10: Elizabeth River Ferry Winter (Labor Day–Memorial Day) Schedule, FY 2021

Day	Span	Headway (minutes)	Number of Daily Trips
Monday - Thursday	5:30 a.m.–9:45 p.m.	30	33
Friday	5:30 a.m.–11:45 p.m.	30	37
Saturday	10:00 a.m.–11:45 p.m.	30	28
Sunday	10:00 a.m.–9:45 p.m.	30	24

Operating Statistics

Ferry services account for less than one percent of the revenue hours and miles across all of HRT’s modes. The Elizabeth River Ferry has three stops—High Street, North Landing, and Waterside—that result in a route 1.5 miles long. Ferry service is also provided to the Harbor Park baseball stadium between April and September when the Norfolk Tides play home games. **Table 2-11** shows key operational statistics for HRT’s ferry services for FY 2019.¹³

Table 2-11: Operating Statistics for Ferry Service, FY 2019

Peak Vehicle Need ¹⁴	Route Length (miles)	Revenue Miles	Total Hours
2	1.5	18,734	6,100

Operating Costs

For FY 2020, total ferry budgeted expenses equaled \$1,465,478.¹⁵

¹² In summer 2020 the winter ferry schedule operated in the summer.

¹³ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

¹⁴ As of May 2019.

¹⁵ Transportation District Commission of Hampton Roads, Hampton Roads, Virginia, Fiscal Year 2020 Budget. <https://gohrt.com/wp-content/uploads/2019/07/FY2020-Budget-Book.pdf>

Annual Ridership

In FY 2019 ridership on the Elizabeth River Ferry totaled 301,321. On average, the ferry service carried approximately 730 passengers on weekdays, 1,330 on Saturdays, and 770 on Sundays.¹⁶

2.1.4 Light Rail Service

HRT operates a 7.4-mile light rail transit line called The Tide from the Eastern Virginia Medical Center complex to the Norfolk/Virginia Beach Border at Newtown Road. The Tide is the first light rail transit system in Virginia and operates seven days a week. **Table 2-12** shows The Tide's schedule.

Table 2-12: The Tide Light Rail Schedule, FY 2021

Span	Headway (minutes)	Number of Trips
Weekday		
6:00 a.m.–6:30 a.m.	15	5
6:30 a.m.–9:00 a.m.	10	15
9:00 a.m.–3:30 p.m.	15	27
3:30 p.m.–7:00 p.m.	10	22
7:00 p.m.–10:00 p.m.	15	14
10:00 p.m.–11:00 p.m.	30	4
11:00 p.m.–12:00 a.m. ¹⁷	30	4
Saturday Schedule		
6:00 a.m.–9:00 a.m.	30	8
9:00 a.m.–9:30 p.m.	15	3
9:30 p.m.–12:00 a.m.	30	57
Sunday Schedule		
10:55 a.m.–9:00 p.m.	15	46

Operating Statistics

Light rail services account for approximately three percent of the revenue hours and miles across all of HRT's modes. **Table 2-13** details the peak vehicle needs, revenue hours, and miles for HRT's light rail services.¹⁸

Table 2-13: Light Rail Operating Statistics, FY 2019

Peak Vehicle Need ¹⁹	Route Length: Average One-Way Trip (miles)	Revenue Miles	Total Hours
6	7.4	385,467	29,797

Operating Costs

For FY 2020, total light rail budgeted expenses equaled \$10,624,388.²⁰

Annual Ridership

Annual ridership on light rail totaled 1,397,192 trips in FY 2019.²¹

¹⁶ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

¹⁷ Service between 11:00 p.m. and 12:00 a.m. only operates on Fridays.

¹⁸ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

¹⁹ As of May 2019

²⁰ Transportation District Commission of Hampton Roads, Hampton Roads, Virginia, Fiscal Year 2020 Budget. <https://gohrt.com/wp-content/uploads/2019/07/FY2020-Budget-Book.pdf>

²¹ These data are not being updated during this minor update of the TSP because FY 2020 service was reduced due to the Covid-19 pandemic.

2.1.5 Route Design and Schedule Standards

Service design standards are critical planning tools to ensure an objective approach to service provision and modification. HRT’s service design standards are fully detailed in **Section 1.2.3: Service Design Standards** and include standards related to route design as well as schedule and performance standards.

Route Design

The alignment of each route is a key factor in its ability to successfully serve customers’ mobility needs. “Route design” refers to route directness, connections to key origins and destinations, and how routes interface with other services that comprise the overall network. Key route design principles include:

- HRT routes should be designed to serve origins and destinations via direct pathways, minimizing out-of-direction movements. This provides a faster trip to attract more customers and fare revenue while minimizing the cost to provide service.
- Bus routes should serve major mixed-use corridors throughout the service area, avoiding smaller neighborhood streets.
- High-frequency HRT routes should be designed to serve major corridors, offer more direct service, and provide transfer connections either on-street or at major transfer hubs in the urban core.
- Deviations off the basic alignment of a fixed route should be minimized whenever possible; however, under HRT’s standards, routes may deviate off their primary alignment to serve major activity centers or provide coverage to areas with limited access. The time necessary for the deviation should not exceed five minutes, or ten percent of the one-way travel time of the existing route without deviation, and deviations must result in an increase in overall route productivity.

Schedule Standards

HRT’s weekday service generally runs between 5:00 a.m. and 1:00 a.m., but some routes end as late as 2:00 a.m. and start as early at 4:44 a.m. Each time period and route type have different service span standards. Weekend service generally runs between 6:00 a.m. and 12:00 a.m. **Table 2-14** shows the standards for headways by service classification and time period.²²

Table 2-14: Service Headway by Route Classification

Time Period		Regional Backbone	Local	Coverage	Limited / Express	On-Demand
Weekday peak	6:00 a.m.–9:00 a.m. 3:00 p.m.–6:00 p.m.	15 min	30 min	60 min	Demand base	n/a
Weekday midday	9:00 a.m.–3:00 p.m.	30 min	30 min	60 min	Demand base	n/a
Weekday evening	6:00 p.m.–9:00 p.m.	30 min	60 min	60 min	Demand base	n/a
Weekend peak	8:00 a.m.–6:00 p.m.	30 min	30 min	60 min	Demand base	n/a
Weekend off-peak	6:00 a.m.–8:00 a.m. 6:00 p.m.–9:00 p.m.	30 min	60 min	60 min	Demand base	n/a

2.1.6 Survey Results

HRT conducted an on-board passenger survey across all modes between August 2016 and February 2017, with the next on-board passenger survey slated for FY 2021. In addition to the origin and destinations of their trip, survey respondents provided demographic information, the type of fare used, and their means of access to the HRT system. The results of the survey are summarized in the following subsections.

Demographics

HRT customers reported the following demographic characteristics:

²² Weekday early morning (before 6:00 a.m.) and late-night services (after 9:00 p.m.) do not have defined service standards.

- Nearly 75 percent identify as a minority, including Black/African American, Hispanic/Latino, Asian, American Indian/Alaskan Native, and Native Hawaiian/Pacific Islander. The remainder identify as White/Non-Hispanic.
- Forty-seven percent live in a household with a total income less than \$25,000 per year, and 80 percent live in a household with an income below \$50,000 per year.
- Fifty-eight percent identify as female.
- Approximately 75 percent are employed either full-time or part-time.
- Five percent reported having a disability.
- Seventy-six percent live in zero- or one-car households.
- Fifty-eight percent are 34 years old or younger, three percent were under the age of 18, and three percent were 65 or older.

Fare Type

According to the on-board survey, a majority of riders use a 1-Day GoPass for their trip (53 percent), followed by a one-trip fare paid with cash (15 percent). **Table 2-15** shows the full fare breakdown of survey respondents.

Table 2-15: Percent Responses by Fare Type

Fare Type	Percentage of People
1-Day GoPass	53%
One-trip fare (cash)	15%
30-Day GoPass	9%
7-Day GoPass	8%
GoPass 365	6%
Other²³	9%

Few respondents reported that they received a discount on their fare: three percent received a senior discount, two percent received a discount for persons with disabilities, and one percent received a youth discount.

Access Mode

Riders overwhelmingly access transit by walking, as shown in **Table 2-16**. Fewer than eight percent reported being dropped off, biking, driving to transit, or using other means of access.

Table 2-16: Percent Responses by Access Mode

Access Mode	Percentage of People
Walk	92%
Was dropped off by someone	3%
Bike	2%
Drove alone and parked	1%
Drove or rode with others and parked	1%
Other²⁴	<1%

Most passengers (63 percent) reported making no transfers to complete their trip. Twenty-nine percent reported making one transfer and eight percent reported making two or more transfers.

²³ "Other" includes: VB Wave 1 Day, GoSemester, Student Freedom Pass, VB Wave 3 Day, 1-Day MAX Pass, Try Transit 1-Day, 30-Day MAX Pass, e-Tide Ticket, 2-Ride GoPass, Try Transit 30 day.

²⁴ "Other" modes include: Wheelchair or scooter, Skateboard, Transportation Network Company (Uber, Lyft, etc.), Taxi, and school/shuttle bus. Fewer than 0.3 percent of survey respondents used any of these modes.

Trip Origins and Destinations

Travel to home or work accounts for the majority of trips on HRT services. Other major destination types include shopping and school. Similar patterns can be seen among trip origin types. A full breakdown of trip destinations is shown in **Table 2-17**.

Table 2-17: Percent Responses by Destination Type

Destination Type	Percentage of People
Home	32%
Work	29%
Shopping	9%
School ²⁵	5%
Recreation ²⁶	5%
Eating or Dining Out	4%
Medical Appointment or Doctor's Visit	2%
Other ²⁷	15%

2.1.7 Support for Transit

As discussed in detail in **Section A.4.3: Transit Design Agreements with Localities**, the cities of Newport News, Norfolk, and Virginia Beach have included transit-supportive land use policies or strategies in their most recent comprehensive plans. While these policies do not represent current transit design agreements with HRT, they do reflect a regional desire to link land use and transportation, including transit access. HRT and the other service providers in the region, Suffolk Transit and Williamsburg Area Transit Authority (WATA), have begun identifying strategies for interagency coordination and collaboration, as described in **Section 2.5: Analysis of Opportunities to Collaborate with Other Transit Providers**. This move toward collaboration and coordination across agencies demonstrates the municipal level support for well-connected transit service in the region.

In addition to municipal level support for transit in the region, HRT has established practices for gauging and tracking public support for transit. As described in **Section A.11: Public Outreach/Engagement/Involvement**, HRT's "Public Hearings and Meetings" policy details the formal process of scheduling public hearings and meetings relative to major service and fare changes. All other changes in HRT service are subject to "meaningful public engagement methods as appropriate to the nature of the proposed change," as is documented in the agency's Title VI Program Public Participation Plan.

From November 2018 – February 2019 HRT conducted a survey to gather community feedback on how to best prioritize improvements to the HRT bus system as part of the Transit Transformation Project. This survey highlighted, from the user perspective, the system's most pressing needs. Nearly 2,500 people participated in the survey, with about 40% of participants self-identifying as HRT bus users. Of potential improvements to the system, surveyed users weighed more reliable and frequent service as well as real-time bus arrival information most heavily.

²⁵ "School" includes: K-12 and college or university destinations (for students only).

²⁶ "Recreation" includes: recreation/sightseeing and sporting events.

²⁷ "Other" destinations include: social visits (friends/relatives), personal business (bank, post office), other business related, pick-up/drop-off someone (daycare, school).

2.2 Evaluation of Transit Market Demand and Underserved Areas

2.2.1 Transit Demand and Underserved Area Evaluation

The following market analysis maps the current density and population of Hampton Roads to determine the demand for different types of transit services throughout HRT’s service area. The market analysis is broken into multiple sub-analyses:

- Transit-Oriented Populations Origin Index
- Activity Destination Index
- Commuter Origin Index
- Population / Employment Trends
- Employment Destination Index
- Regional Travel Flows

Transit Propensity Indices

To determine whether a location is suitable for transit service, this transit strategic plan uses a series of indices that reveal locations with significant clusters of potential transit-oriented users, commuters, jobs, or other non-work activity destinations that could be well-served by transit. Each index is based on a set of demographic, employment, and geographic characteristics which are weighted to reflect the effect of these characteristics on transit demand. Together with other data on the origins and destinations of trips throughout the region, and input from stakeholders, these indices provide a foundation for planning transit service throughout the HRT service area. The transit propensity indices for the Hampton Roads Transit TSP are summarized in **Table 2-18**.

The transit propensity indices that follow are constructed from demographic and employment statistics that are positively correlated with transit ridership. For instance, a location with a high number of zero-car households will be more likely to have potential transit users than a location with more multi-car households, with all other characteristics being equal. For each index, these demographic and employment statistics are weighted based on their relative effect on transit ridership within the Hampton Roads region derived from Hampton Roads Transit’s 2016 *Regional Origin and Destination Study*.

The transit-oriented population and commuter indices draw from the US Census’ 2017 American Community Survey (ACS) five-year estimates, which provide reliable demographic data for small geographic areas (Census block groups). Employment and non-work travel indices are based on the US Census’ 2015 Longitudinal Employer-Household Dynamics (LEHD) survey, which provides estimates of the number and type of jobs in an area (Census block groups).

Table 2-18: Summary of Transit Propensity Indices

	Transit Propensity Index	Demographic and Employment Statistics Used	Locations with Highest Propensity
Trip Producers	Transit-Oriented Population	Population, race/ethnicity, households, age, income, car ownership, disability status	Downtown Norfolk, Downtown Hampton, areas south and east of I-664 in Newport News, and areas immediately north of I-64 in Norfolk.
	Commuter	Labor force, employed persons, commuters	Downtown Norfolk, the Virginia Beach Oceanfront, and residential neighborhoods throughout Virginia Beach.
Trip Attractors	Workplace	Employees	Military facilities, Chesapeake Municipal Center, Lynnhaven Mall, and the downtowns of Norfolk, Newport News, and Hampton.
	Non-Work	Jobs in restaurant and retail, recreation, healthcare and social assistance, education, and government	Downtowns of Hampton, Norfolk, Portsmouth, the Chesapeake Municipal Center, and areas adjacent to the intersection of I-64 and I-264.

Transit-Oriented Population Index

The Transit-Oriented Population Index identifies areas with higher numbers and concentrations of potential transit-oriented customers, to highlight areas throughout the service area that need or demand transit. The index is constructed from various demographic statistics in five categories: population (including race and ethnicity), age, income, vehicle ownership, and disability status. After each block group is scored in these categories, these scores are weighted and combined to create an overall transit-oriented population index, **Table 2-19** details the weights used for each category.

Table 2-19: Transit-Oriented Population Index

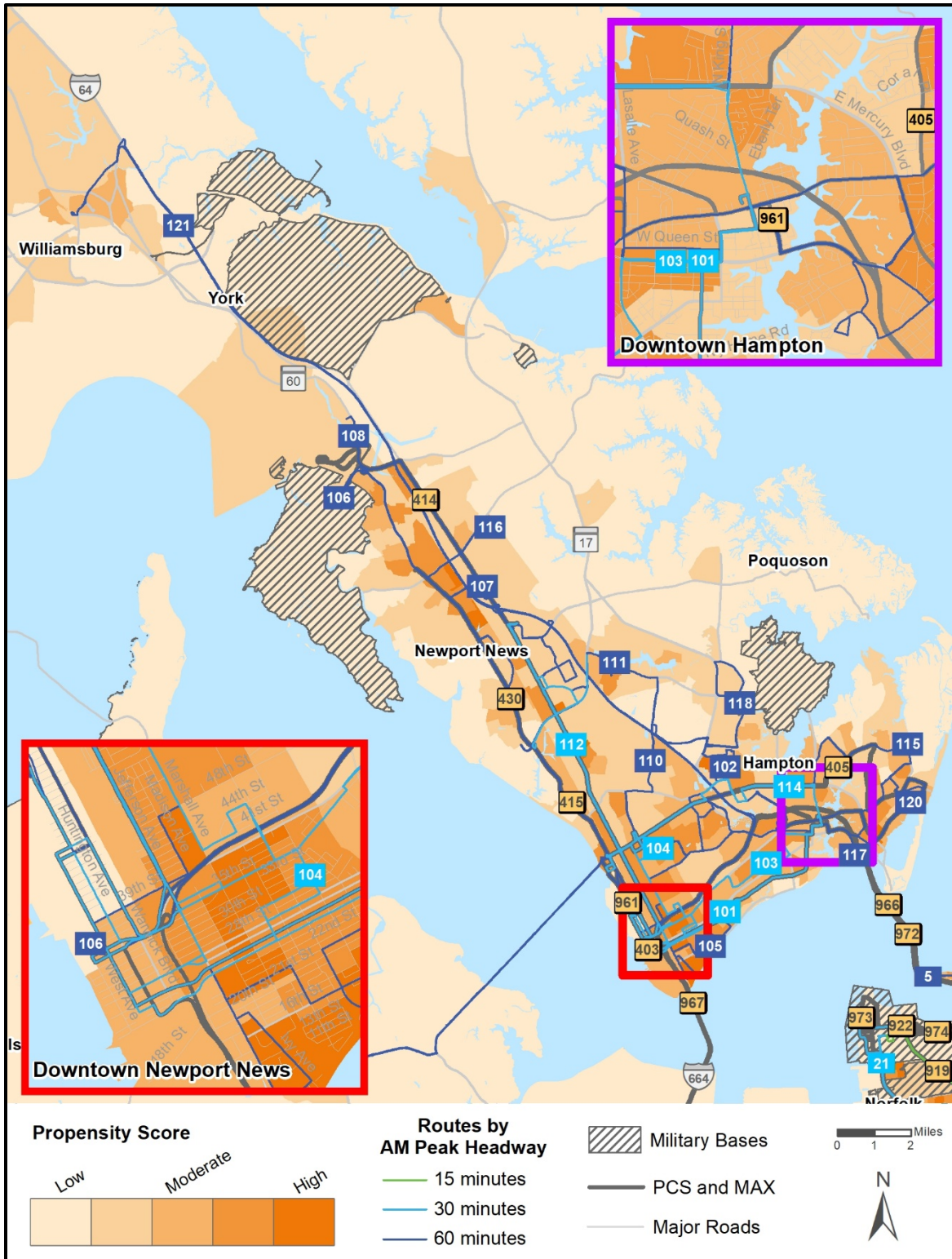
Category	Weight
Population (General / Minority)	30
Age (Youth / Senior)	10
Income (Low)	20
Vehicle Ownership (Zero / One Car)	30
Disability Status (Yes)	10

Across the entire Hampton Roads region, the areas with the most highly transit-oriented populations include neighborhoods in and adjacent to Downtown Norfolk such as Brambleton and Ghent, portions of Downtown and Midtown Portsmouth, Downtown Newport News, Downtown Hampton, and areas south and east of I-664 in Newport News. Other areas of significant transit-oriented populations are scattered throughout the metropolitan area, typically where relatively dense apartment complexes can be found. **Figure 2-6** and **Figure 2-7** show the Transit-Oriented Population Index for the Peninsula and Southside, respectively. Areas with moderate-to-high concentrations typically show significant concentrations of population, zero- and one-car households, low-income individuals, or some combination thereof.

On the Peninsula, moderate-to-high levels of transit-oriented populations can also be found in neighborhoods in and around Downtown Hampton, along the I-64 corridor in Newport News, and along Mercury Boulevard in both Newport News and Hampton. Many of these areas are either in close proximity to a major activity center, transportation corridor, or are relatively dense.

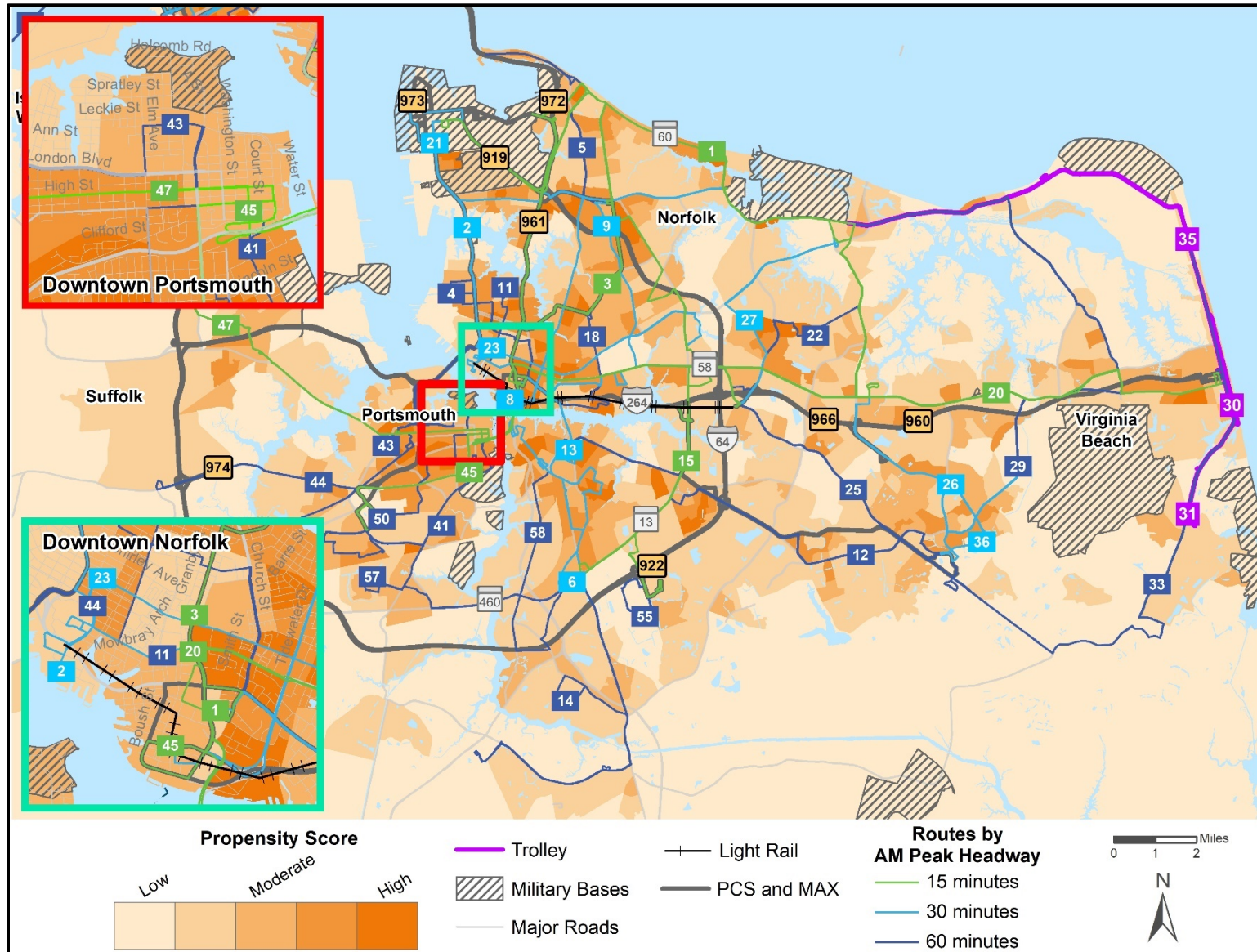
In the southern portion of HRT's service area, moderate-to-high concentrations of transit-oriented populations can also be found near historic downtowns and near major activity centers, such as higher education institutions like Virginia Wesleyan University and the Virginia Beach Convention Center. These locations include Downtown Portsmouth, Downtown Norfolk, along the Chesapeake-Norfolk border north of I-64 to the Elizabeth River, neighborhoods adjacent to Virginia Beach Boulevard such as Newtown and North Virginia Beach, and neighborhoods around Lynnhaven Parkway north of Princess Anne Boulevard.

Figure 2-6: Peninsula – Transit-Oriented Population Index



Source: HRT Routes Fall 2018

Figure 2-7: Southside – Transit-Oriented Population Index



Source: HRT Routes Fall 2018

Commuter Index

The Commuter Index identifies areas with high numbers and concentrations of traditional peak-hour commuters in order to determine how well existing transit service meets commuter demand and to identify potential new markets. The index is constructed from demographic statistics in two categories: labor force and commute mode. Statistics in these categories are designed to correlate with peak-hour trip flows. After each block group is scored in these categories, these scores are weighted and combined to assess an area’s overall Commuter Index score.

Table 2-20 details the weights by category.

Table 2-20: Commuter Index

Category	Weight
Labor Force	90
Commute Mode (Transit)	10

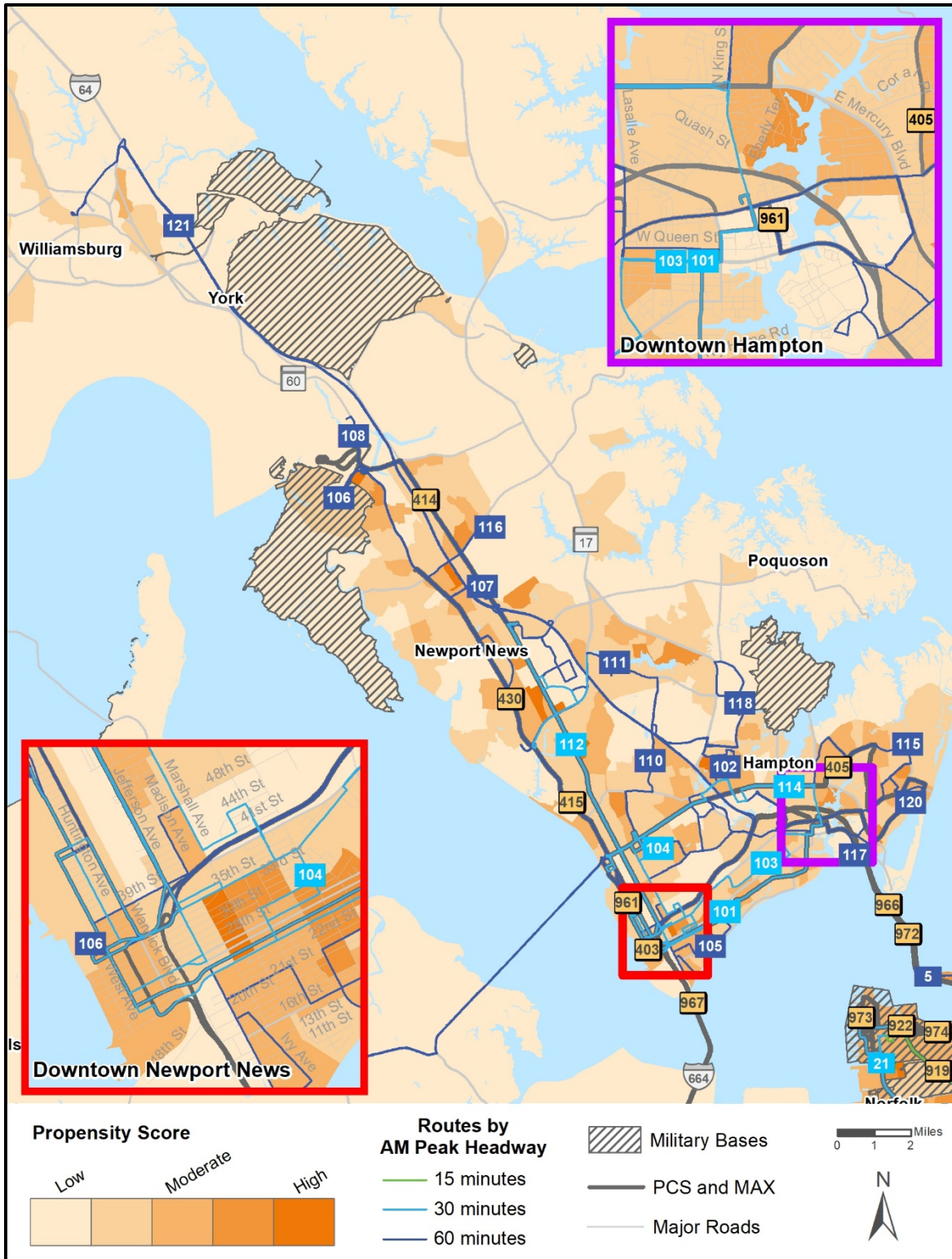
Figure 2-8 and **Figure 2-9** show the Commuter Index for the Peninsula and Southside, respectively. By design, areas with moderate to high Commuter Index scores are those areas with high numbers and densities of persons employed or in the labor force.

Across the entire HRT service area, the areas with the highest Commuter index scores include dense residential neighborhoods adjacent to Downtown Norfolk, the Virginia Beach Oceanfront, and several neighborhoods throughout Virginia Beach.

On the Peninsula, moderate levels of commuters are found along I-64 north of Mercury Boulevard and Warwick Boulevard (US-60) in Newport News. By comparison, the southernmost portions of Newport News and Downtown Hampton show relatively low commuter index values.

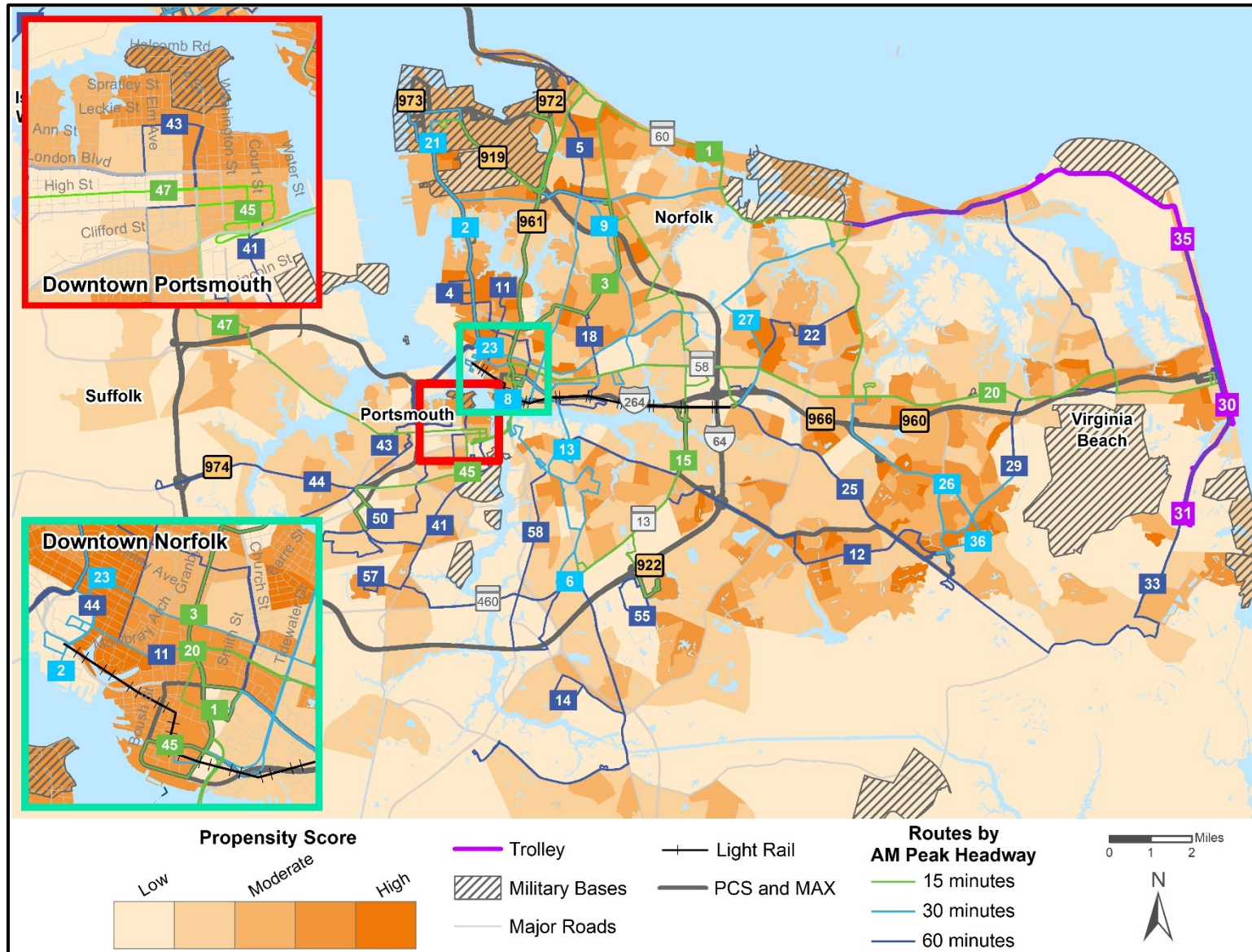
In the southern portion of HRT’s service area, moderate-to-high concentrations of commuters are prevalent in places proximate to freeways and major arterials, primarily outside the region’s urban core. In Chesapeake, medium concentrations are seen north of Military Highway, as well as around Greenbrier Mall and nearby neighborhoods. In Virginia Beach, these concentrations are highest along I-264 at the Virginia Beach Oceanfront, south of I-264 along Lynnhaven Parkway, and north of Virginia Beach Boulevard along Newtown Road.

Figure 2-8: Peninsula – Commuter Index



Source: HRT Routes Fall 2018

Figure 2-9: Southside – Commuter Index



Source: HRT Routes Fall 2018

Workplace Index

The Workplace Index is constructed from the total number of jobs and employment density in an area (**Table 2-21**). Areas with high numbers and densities of jobs are also likely to be locations where traditional peak-hour commuters would travel to for work and are considered major trip attractors. This index relies on Longitudinal Employer-Household Dynamic (LEHD) data on the location of both public and private sector jobs where the job is the primary job held by an individual. However, for block groups with military bases, LEHD figures significantly underestimate the jobs present at the facility. As a result, employment figures from Department of Defense websites and economic development reports are used in lieu of LEHD data for select military base block groups.

Table 2-21: Workplace Index

Category	Weight
Employment (All Jobs)	100

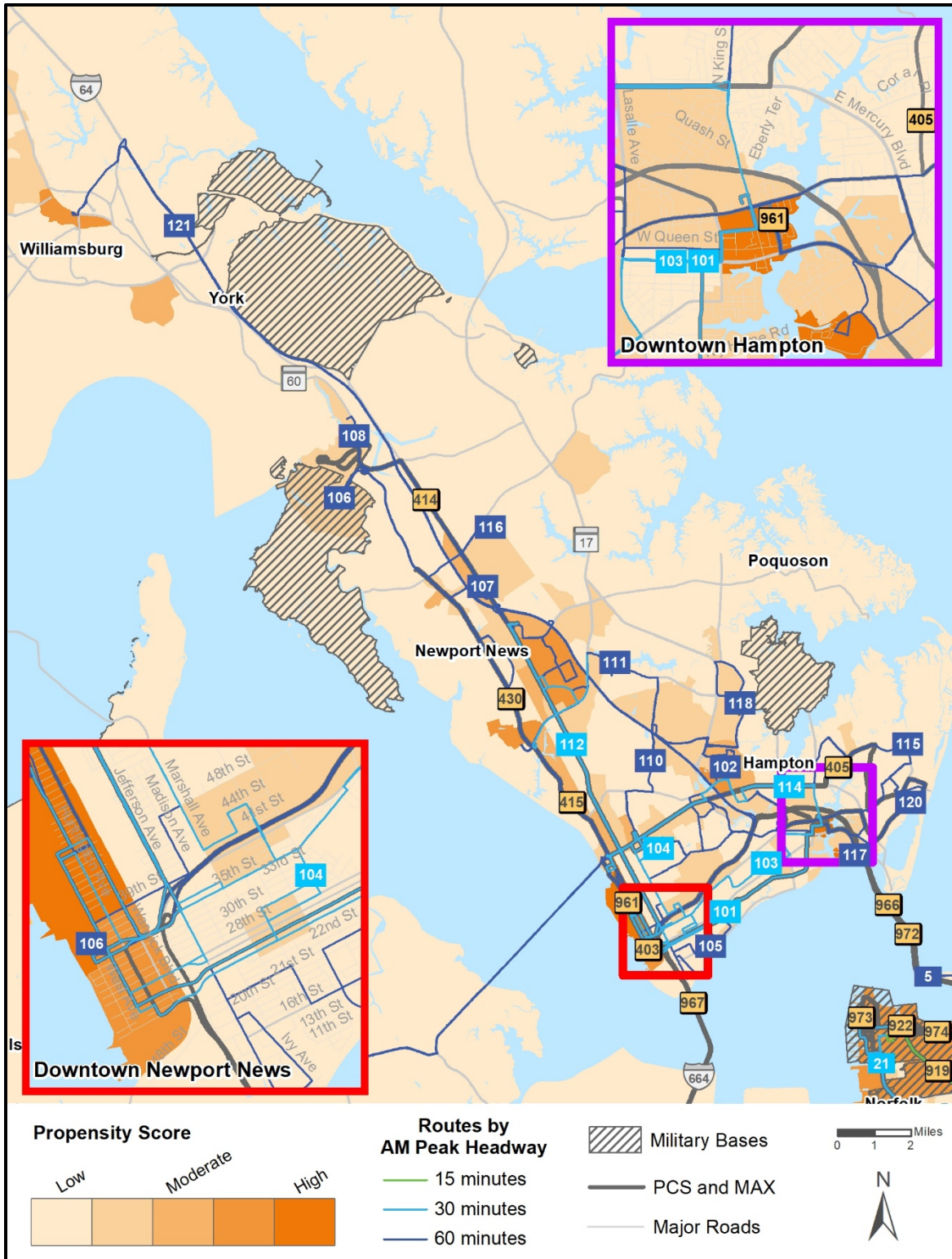
Figure 2-10 and **Figure 2-11** show the Workplace Index for the Peninsula and Southside, respectively. Because employment centers are more strongly concentrated than residential areas, fewer areas in the region receive moderate to high Workplace Index scores. By design, those areas with high levels and densities of jobs receive the highest score.

Across the entire HRT service area, the areas with the highest Workplace index scores include military facilities like Naval Station Norfolk, Naval Support Activity Norfolk, Naval Amphibious Base Little Creek, Norfolk Naval Shipyard, Naval Air Station Oceana, and Newport News Shipbuilding. Non-military locations with high Workplace Index scores include the Chesapeake Municipal Center, Lynnhaven Mall, and the downtowns of Norfolk, Portsmouth, Hampton, and Newport News.

On the Peninsula, moderate-to-high levels of employment are also found near I-64 at Oyster Point Road, in the area where the City Center at Oyster Point, the Marketplace at Tech Center, and Cannon, Inc. are located. Christopher Newport University and Riverside Regional Medical Center form another concentration of employment in that area. In Hampton, the downtown area is another substantial concentration of jobs, as are the VA Medical Center and the Peninsula Town Center.

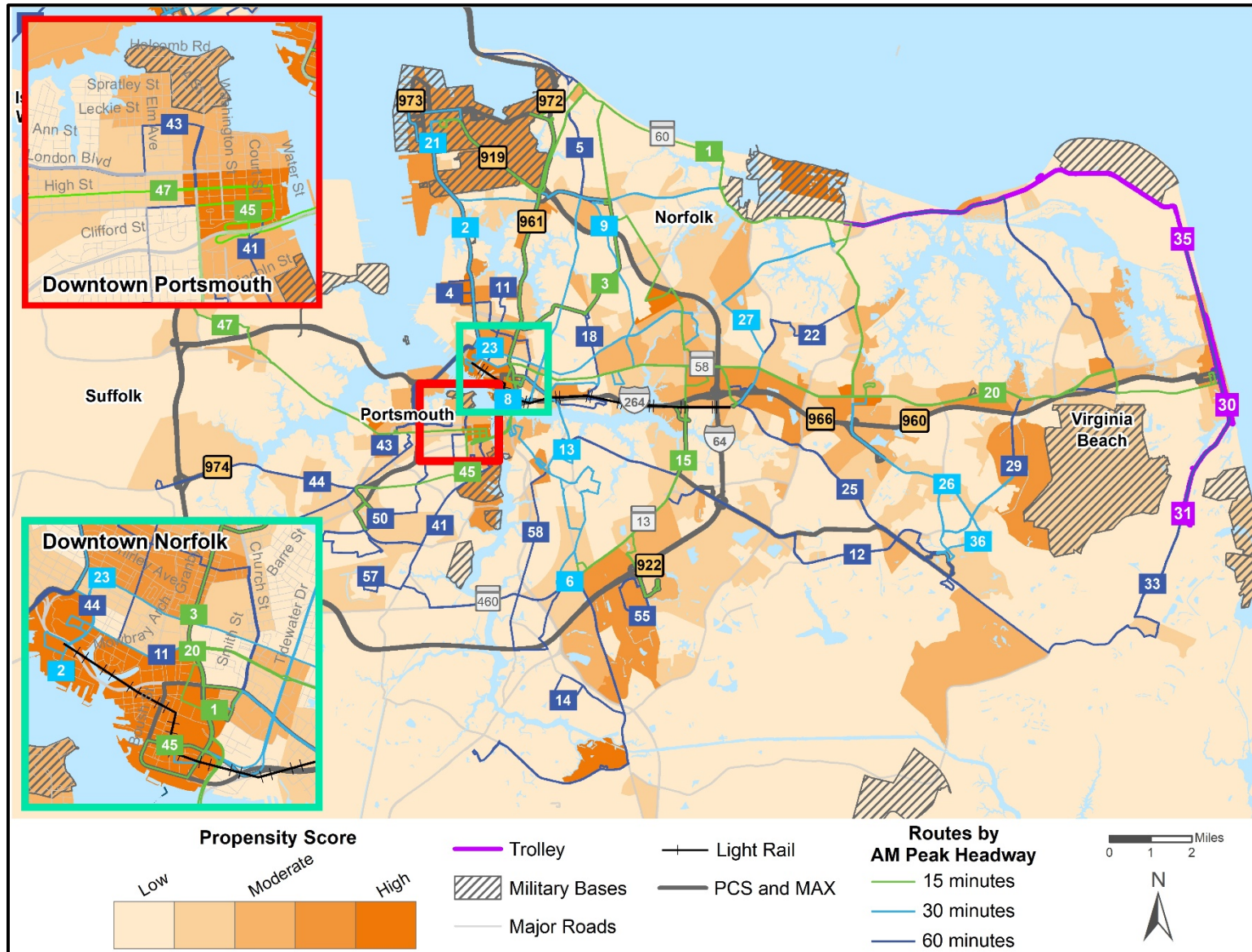
In the southern portion of HRT's service area, additional concentrations of employment are found clustered around other major activity centers. In Chesapeake, the Greenbrier area forms a significant concentration. In Virginia Beach, the area along I-264 from Military Circle Mall to Virginia Beach Town Center and the Lynnhaven Mall area are other strong concentrations. The Princess Anne area also received a high score due to a number of athletic complexes and recreational facilities. Though the Virginia Beach Oceanfront is less significant as an employment center, this is likely a consequence of available employment data not reflecting seasonal peaks of employment in the area. In Norfolk, additional concentrations of employment are seen at Old Dominion University and in industrial areas near Princess Anne Road towards the city's eastern edge. Portsmouth's concentrations of employment fall near High Street where the Maryview Medical Center and a Walmart Super Center can be found.

Figure 2-10: Peninsula – Workplace Index



Source: HRT Routes Fall 2018

Figure 2-11: Southside – Workplace Index



Source: HRT Routes Fall 2018

Non-Work Index

The Non-Work Index shows potential destinations for non-work travel based on the concentration of certain job types in an area. For instance, areas with high numbers and densities of retail and restaurant jobs likely indicate places where transit customers might travel for shopping or dining related trips. Scores across Retail & Restaurant, Recreation, Health Care & Social Assistance, Education, and Government are combined to create an overall Non-Work Index (**Table 2-22**). This index relies on LEHD data on the location of both public and private sector jobs where the job is the primary job held by an individual.

Table 2-22: Non-Work Index

Category	Weight
Retail / Restaurant	20
Recreation	10
Healthcare / Social Assistance	35
Education	25
Government	10

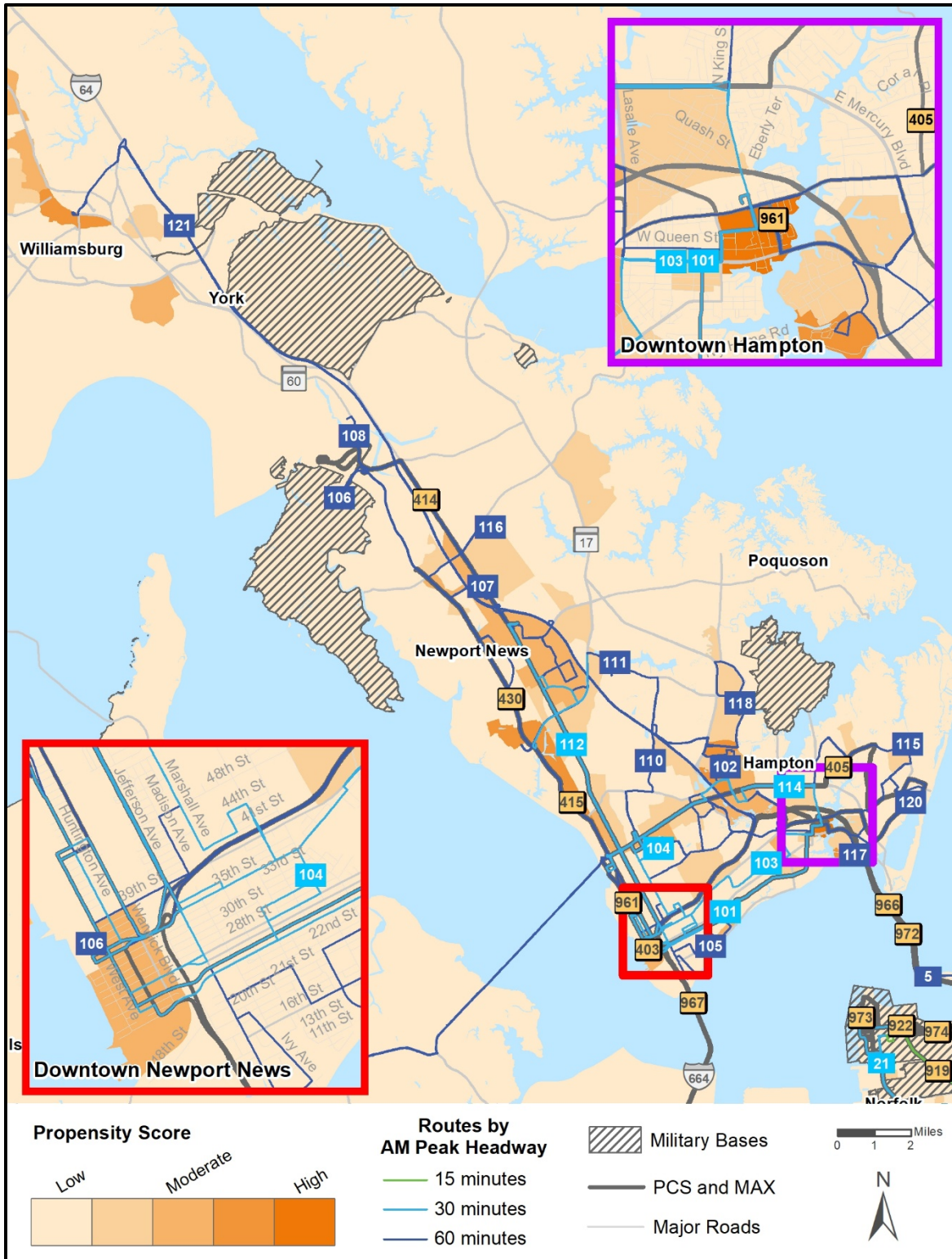
Areas with the highest scores in this index have not only significant numbers of jobs in the employment categories used to construct this index, but also high levels of employment overall. In part, this reflects the significant role that education, military and other government institutions play in the region's economy, all of which are more heavily weighted in the Non-Work Index. Because employment centers are more concentrated than residential areas, far fewer areas show medium to high scores in this index than in the Transit-Oriented Population or Commuter Indices. Because the Non-Work Index is based on employment data, the distribution of scores across block groups is similar to the Workplace Index.

Across the entire HRT service area, the areas with the highest Non-Work Index scores are the downtowns of Hampton, Norfolk, Portsmouth, the Chesapeake Municipal Center, and the areas adjacent to the intersection of I-64 and I-264. In each of these areas, a dense and diverse mix of education, government, health care, retail and recreation jobs indicate strong attractors for trips of various non-work purposes. **Figure 2-12** and **Figure 2-13** show the Non-Work Index for the Peninsula and Southside, respectively.

On the Peninsula, moderate concentrations of non-work destinations are also found near educational institutions, such as Thomas Nelson Community College and Hampton University in Hampton, Christopher Newport University in Newport News, and the College of William & Mary in Williamsburg. Retail destinations in the area, such as those along Mercury Road in Hampton and Jefferson Avenue in Newport News, are other attractors of non-work trips.

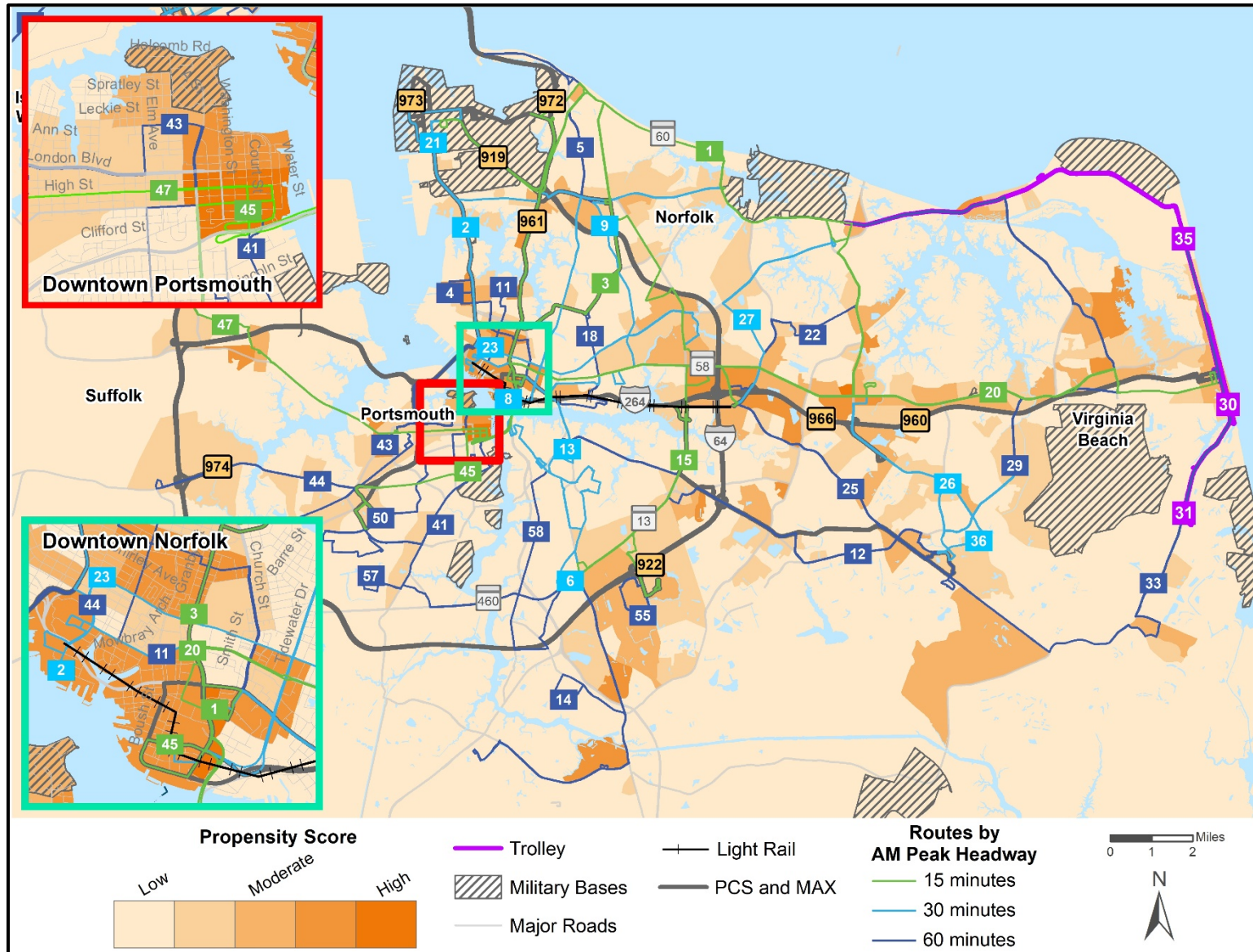
In the southern portion of HRT's service area, the highest Non-Work Index scores are similarly found in areas with strong concentrations in one or more categories. In Norfolk, high index scores are seen for educational institutions like Norfolk State University and Old Dominion University, and medical facilities such as Norfolk General Hospital and Bon Secours DePaul Medical Center. In Portsmouth, commercial and medical facilities along High Street and Airline Boulevard are other notable concentrations of non-work trip destinations. In Chesapeake, the Greenbrier area is notable for non-work trip attractors, as it was in the Workplace Index. In Virginia Beach, the I-264 corridor from Norfolk to the Oceanfront shows consistent levels of non-work trip attraction. Like the Workplace Index, the Princess Anne area of Virginia Beach is notable here for its mix of government, recreation and retail institutions.

Figure 2-12: Peninsula – Non-Work Index



Source: HRT Routes Fall 2018

Figure 2-13: Southside – Non-Work Index



Source: HRT Routes Fall 2018

Population / Employment Trends

As an area's population density or employment density grows, it typically becomes more supportive of transit. For this analysis, population and employment density were calculated based on data from the Hampton Roads Transportation Planning Organization (HRTPO). To calculate percentage changes, HRTPO's 2045 forecasts were compared to 2015 data, the most current year for which data is available.

Population Density

Several areas showed expected 2045 population densities above 15,000 persons per square mile, a density suitable for high-quality transit service. These areas included neighborhoods around Downtown Norfolk, Downtown Portsmouth, and Virginia Beach Town Center. Areas with the lowest population densities include industrial areas along waterfronts, military facilities, and the southernmost rural areas of the City of Virginia Beach, the City of Chesapeake, and portions of York County (currently outside of HRT's service area).

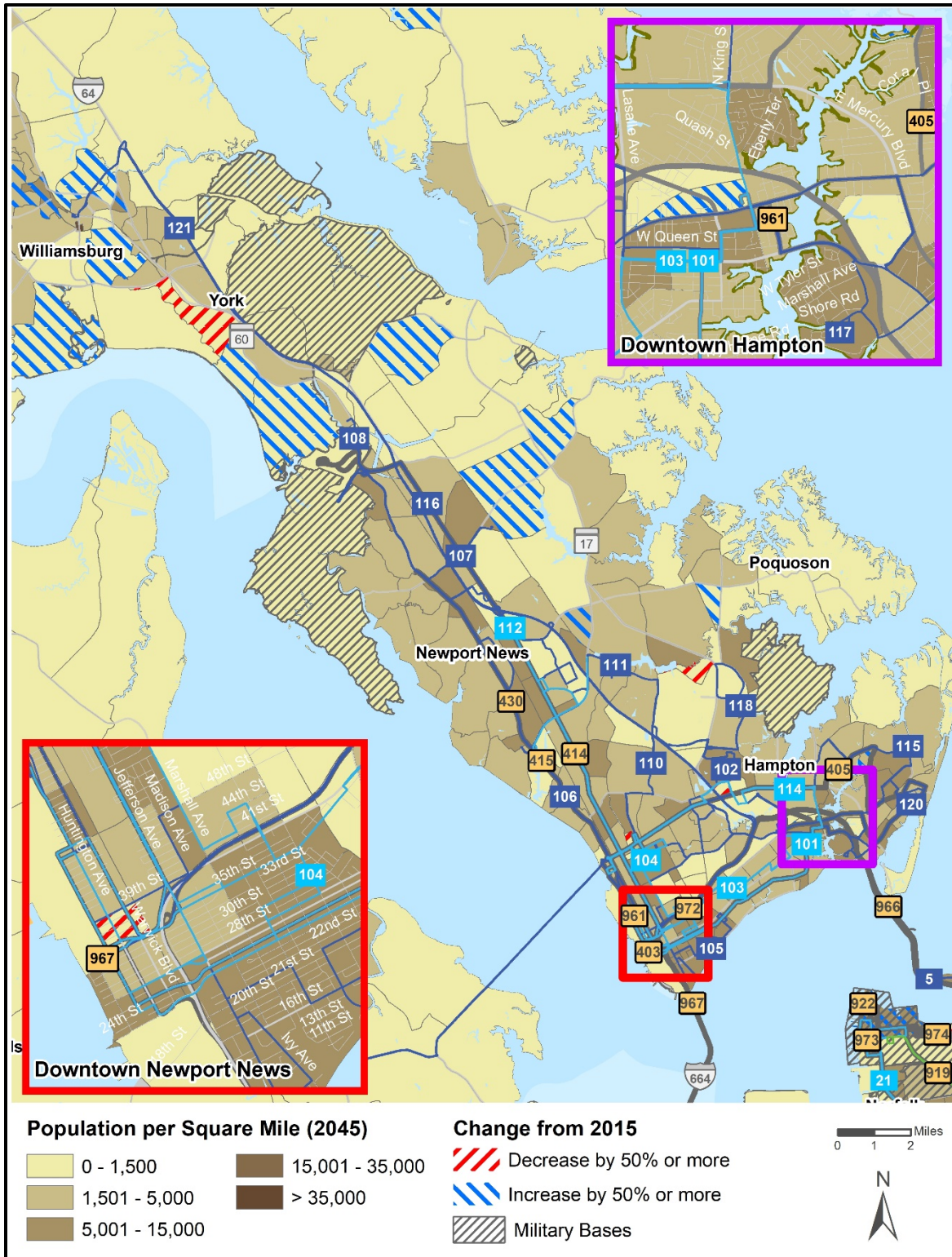
By 2045, the fringes of Portsmouth, and the cities of Chesapeake and Virginia Beach, are expected to grow in population most quickly, albeit from low existing population. Areas in the northern part of the Peninsula, and areas around Downtown Norfolk, Downtown Portsmouth, and the Virginia Beach Town Center are expected to densify much further as well. **Figure 2-14** and **Figure 2-15** show population densities throughout the Hampton Roads region, along with notable changes in densities from 2015 estimates.

Employment Density

Areas with higher employment attract more trips to work by commuters, and higher densities improve the ability of transit to serve those areas. Locations with expected high population densities in 2045 include Downtown Norfolk, Downtown Newport News, and areas along the I-264 corridor from Norfolk to the Virginia Beach Oceanfront. Notably, while military employment is significant in the region, HRTPO excludes many military bases from its 2015 estimates of employment.

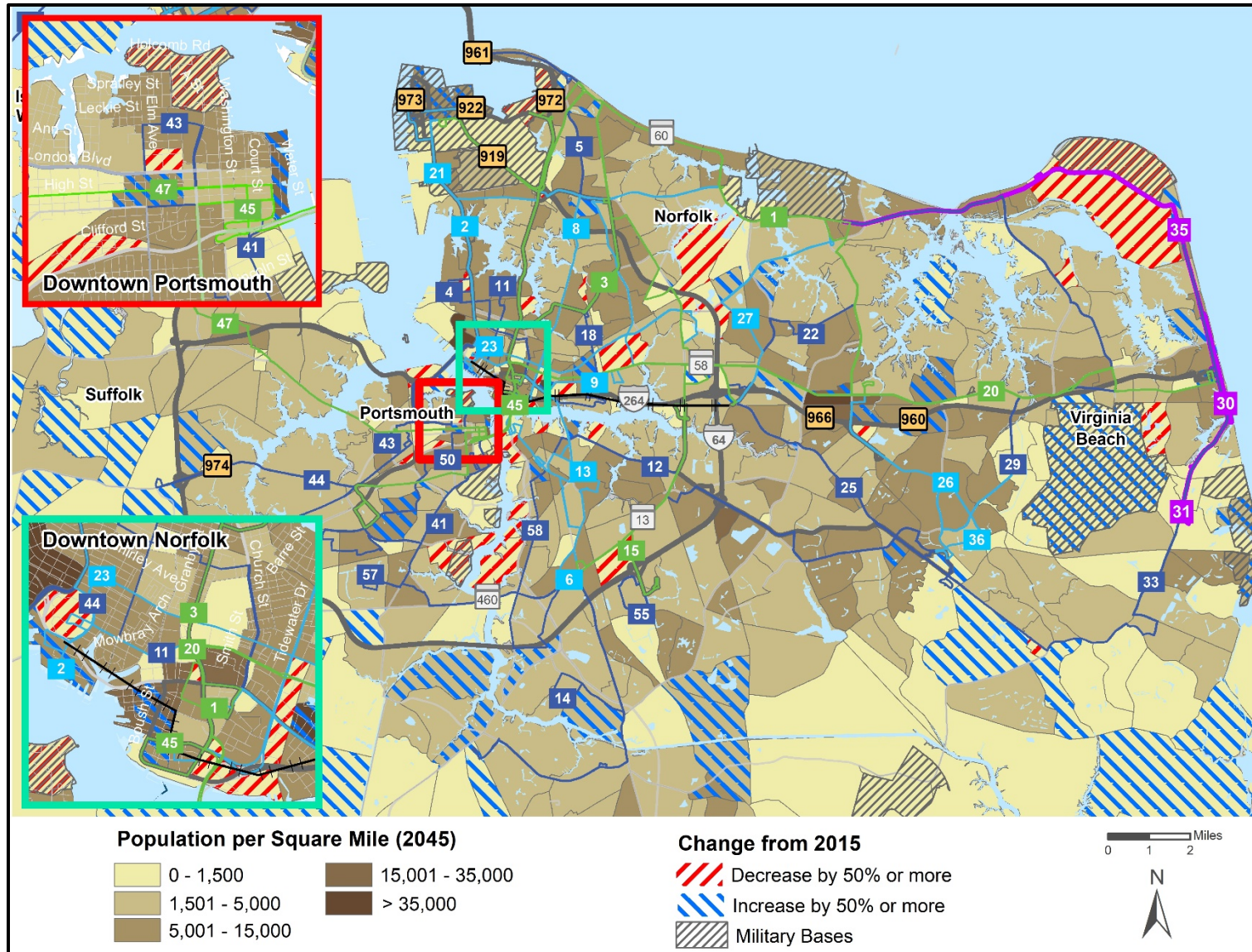
Employment growth through 2045 will be scattered but strongest on the southside of the region, particularly in portions of Norfolk, Portsmouth, and in Chesapeake in the Greenbrier area. Areas along the I-264 corridor from Norfolk to the Virginia Beach Oceanfront are also expected to grow in employment. On the Peninsula, employment in Downtown Hampton is projected to grow as well. Conversely, portions of Virginia Beach along the VA-165 corridor are expected to lose jobs. **Figure 2-16** and **Figure 2-17** show 2045 employment densities throughout the Hampton Roads Transit Service area, along with notable changes in densities from 2015 estimates.

Figure 2-14: Peninsula – Population Density (2045)



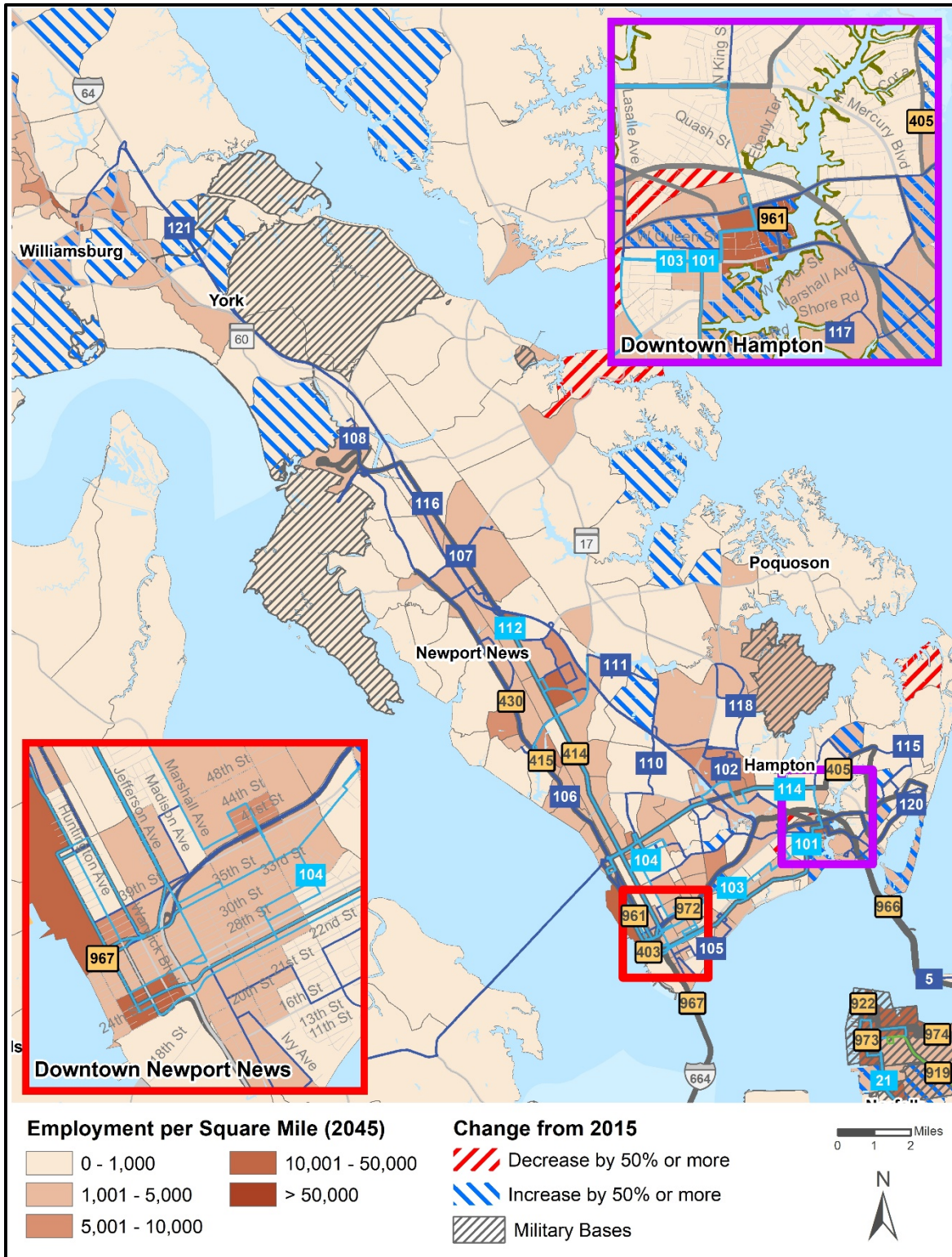
Source: HRT Routes Fall 2018

Figure 2-15: Southside – Population Density (2045)



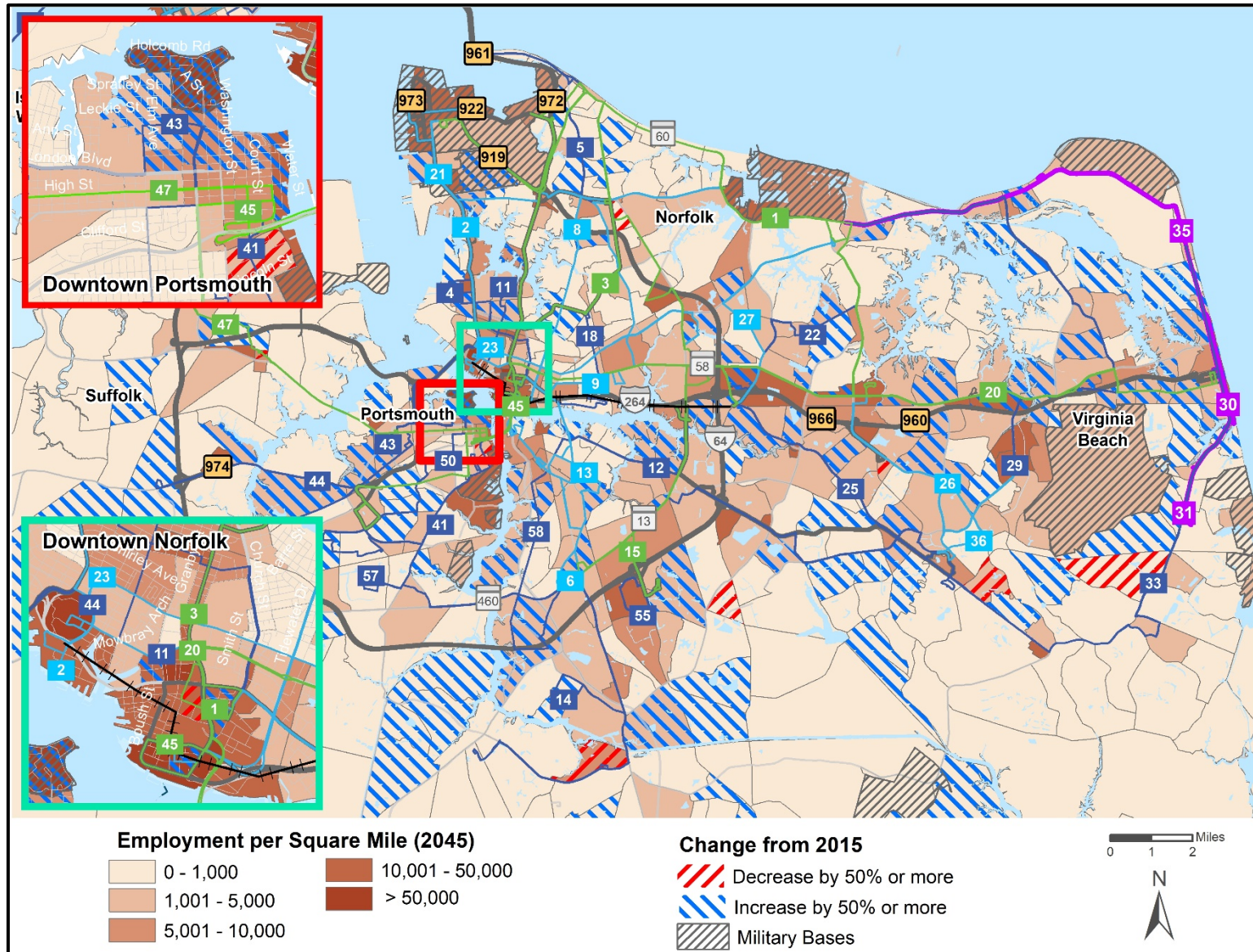
Source: HRT Routes Fall 2018

Figure 2-16: Peninsula – Employment Density (2045)



Source: HRT Routes Fall 2018

Figure 2-17: Southside – Employment Density (2045)



Source: HRT Routes Fall 2018

Travel Flow Analysis

Travel patterns within the HRT service area were determined using the Hampton Roads Transportation Planning Organization (HRTPO) Regional Travel Demand Forecasting Model. The model provides an estimate of unlinked passenger trips between traffic analysis zones (TAZs) for 2009 and 2040. For this analysis, the trips are then aggregated to larger travel districts to better understand general regional travel trends. The model forecasts travel across the cities of Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg and the counties of Gloucester, Isle of Wight, James City, and York. While the focus of the analysis is solely on the HRT service area, the full extent of the model was analyzed to understand the regionwide travel patterns and best create transit options.

For the purpose of this study, three types of trips were analyzed: home based work, home based other, and non-home based during two different time periods: peak and off-peak. **Table 2-23** provides a detailed description of each type of trip and time period.

Table 2-23: Travel Demand Model Classifications

Classification	Description
Home Based Work (HBW)	A direct trip between a person’s home and workplace in either direction.
Home Based Other (HBO)	A direct trip between a person’s home and any non-work location in either direction.
Non-Home Based (NHB)	A trip that does not begin or end at the home. Typically representing the middle part of trip chains; for example: going out to lunch at work or traveling to a second store location while shopping.
Peak	A trip during the morning or afternoon peak periods (6:00 a.m.–9:00 a.m. and 3:00 p.m.–6:00 p.m.)
Off-peak	A trip during the early morning, midday, evening, or late-night periods (9:00 a.m.–3:00 p.m. and 6:00 p.m.–6:00 a.m.)

The following analysis investigated two different types of travel patterns:

- **All-Day Travel:** combines trips from all time periods and purpose to give a full picture of travel throughout the region.
- **Peak Period Travel:** exclusively examines the peak hour home based work trips to understand commuting patterns.

All-Day Travel

Regionwide, the highest density of all-day travel trips originates within Downtown Norfolk and along the I-264 corridor between Norfolk and Virginia Beach. The model shows the highest concentration of trip origins in Downtown Norfolk (96 trips per acre), an area that is made up of high and medium-density housing, retail, and office buildings. The surrounding areas, including northern Norfolk and western Virginia Beach, also showed a high concentration of trips originating from within.

On the Peninsula, trips tend to originate from the low to medium density communities located off I-64 and Jefferson Avenue. Additionally, Downtown Newport News and the community directly west have high densities of trip origins. **Table 2-24** identifies the districts with the highest concentrations of all-day trip origins and **Figure 2-18** shows the density of trip origins throughout the region.

Relative to the trip origins, the trip destinations are more heavily concentrated in Downtown Norfolk, which has a trip density of 521 per acre; the next highest area—Ghent, which is adjacent to Downtown Norfolk—had less than a quarter of that density of trip destinations. Downtown Norfolk is a medium- to high-density mixed-use area that attracts a lot of visitors due to the various attractions including the MacArthur Center, Scope Arena, and Harbor Park Stadium, and government services such as the Norfolk City Hall, Department of Motor Vehicles, and Norfolk Circuit Court. Ghent is a mix of medium density residential and commercial development. The downtown areas of Portsmouth and Virginia Beach have a similar combination of attractions and services as Downtown Norfolk that

form smaller destination hubs, receiving between 40 and 50 trips per acre. On the Peninsula, the Deer Park / Palmer area, which includes the Patrick Henry Mall and Oyster Point in Newport News, had the highest number of trip destinations at 62 trips per acre. This area includes multiple shopping centers and retail destinations which drive all-day travel. The other high-density areas on the Peninsula include the Newport News / Williamsburg International Airport, Downtown Newport News, and the shopping centers in Mercury Central. **Table 2-25** identifies the districts with the highest concentrations of all-day trip destinations and **Figure 2-19** illustrates the density of trip destinations throughout the region.

Table 2-24: Travel Districts with a High Density of All-Day Trip Origins

Area	District Name	Number of Trip Origins	Density (Trips/Acre)
Southside	Downtown Norfolk	30,483	96
	Ghent	84,326	62
	Ocean View Ave	98,224	52
	Lafayette-Winona	47,772	48
	Kensington, Highland Park, Colonial Place	82,394	44
Peninsula	Windsor Great Park, Richneck	105,493	38
	Downtown Newport News	85,785	37
	Denbigh	142,349	32
	Northampton	123,854	31
	Deerfield, Kiln Creek, Bayberry	52,747	31

Table 2-25: Travel Districts with a High Density of All-Day Trip Destinations

	District Name	Activity Centers	Number of Trip Destinations	Density (Trips /Acre)
Southside	Downtown Norfolk	Downtown Norfolk, MacArthur Center, Norfolk Circuit Court, Norfolk City Hall, Tidewater Community College - Norfolk	165,634	521
	Ghent	Downtown Norfolk, Norfolk General Hospital, Children's Health System (CHKD), Eastern Virginia Medical School, US Army Corps of Engineers - Norfolk	167,974	124
	Tanners Creek, Partra	Southern Shopping Center, Norview Community Center, Naval Station Norfolk	89,824	53
	Kings Grant	Virginia Beach Town Center, Loehmann's Plaza	289,735	52
	Brambleton	Norfolk State University, Harbor Park Stadium, Hampton Roads Transit (HRT) - Southside Facility, Amtrak Station	81,483	50
Peninsula	Deer Park / Palmer	City Center at Oyster Point, Patrick Henry Mall, Oyster Point Square, Canon, Inc., Tech Center	188,668	62
	Mercury Central	Coliseum Square Center, Coliseum Crossing Shopping Center, Sentara CarePlex Hospital, Peninsula Town Center, Langley Air Force Base	133,207	53
	Newport News Shipbuilding	Huntington Ingalls Industries, Inc. (Newport News Shipbuilding)	38,594	39
	Downtown Newport News	Downtown Newport News	89,017	38
	Newport News / Williamsburg International Airport	Mary Immaculate Hospital, Jefferson Commons	58,269	33

Figure 2-18: Density of All-Day Trip Origins

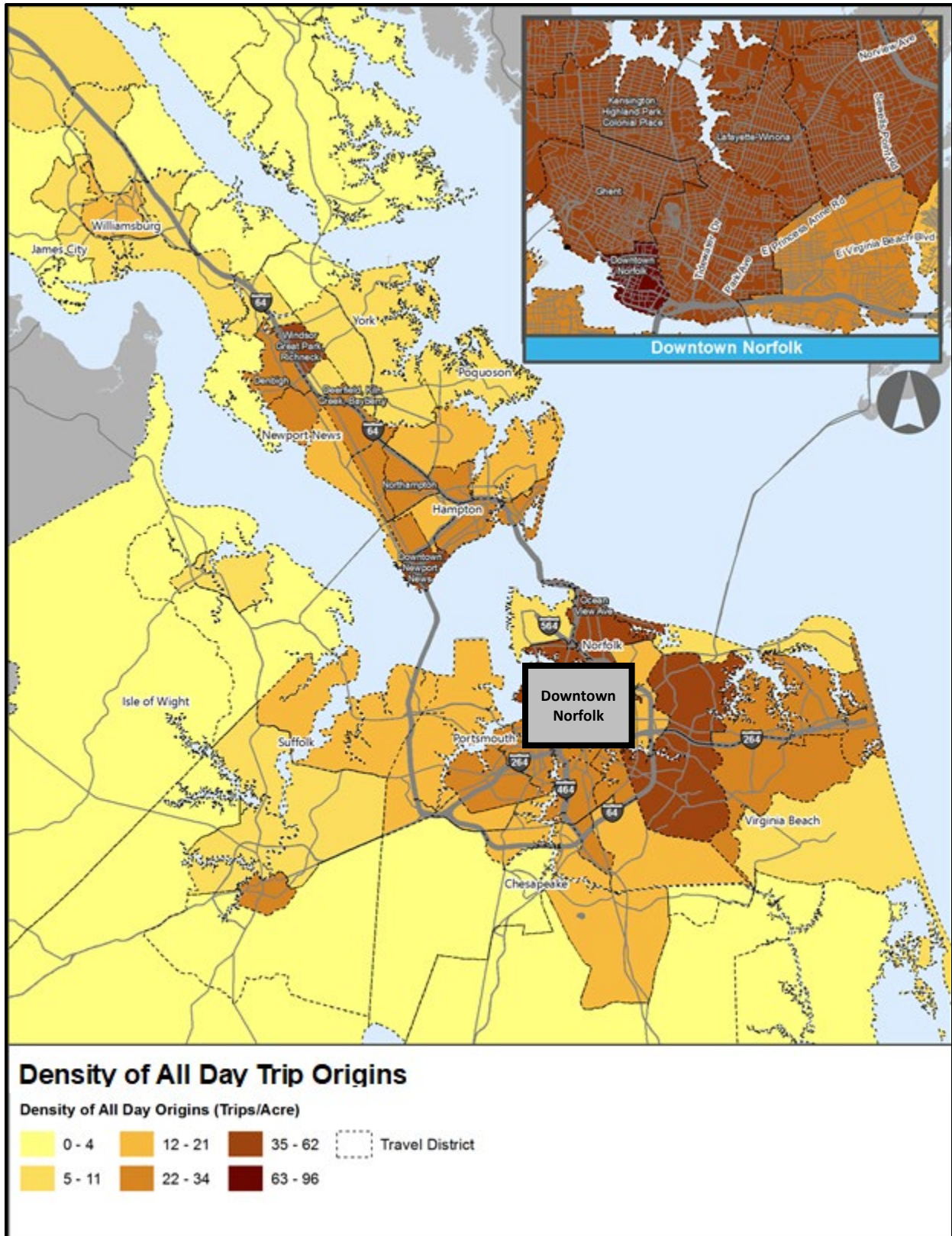
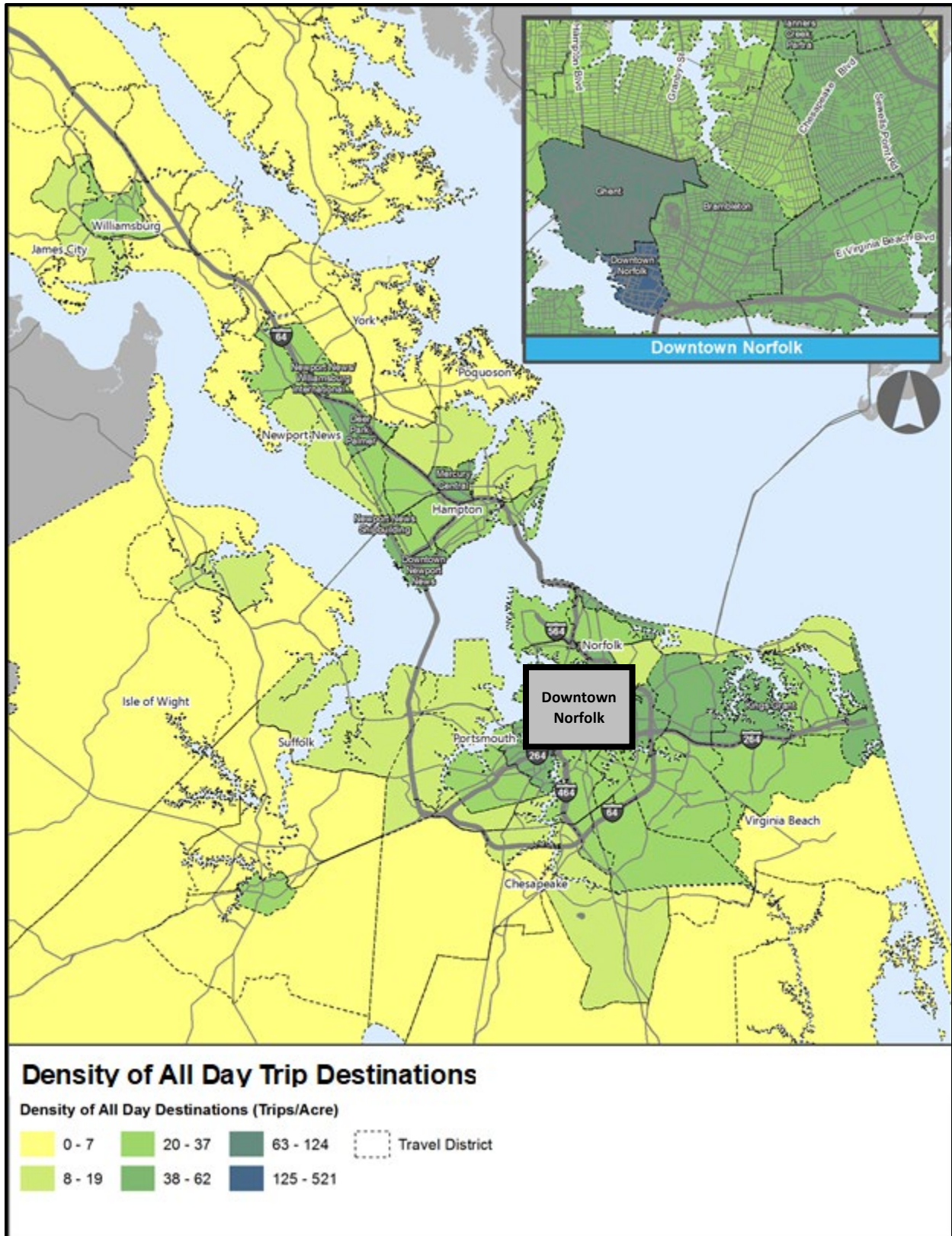


Figure 2-19: Density of All-Day Trip Destinations



Within the HRT service area, the majority of all-day trips are short distance, either traveling internally within the district or connecting to an adjacent district. The districts with the highest internal and external travel flows can be found in **Table 2-26** and **Table 2-27**, respectively. The high concentrations of internal all-day travel flows tend to be in large suburban districts that contain a town center or large shopping center, such as Virginia Beach Town Center, the City Center at Oyster Point, and the Lynnhaven / Naval Base area.

Across the HRT service area and member jurisdictions, people primarily circulate within small groups of districts according to the all-day travel flows. These travel patterns create communities where there are large volumes of flows between adjacent districts and little to no travel to districts outside the group. This is mostly caused by the bodies of water that divide the area but can also occur due to poor roadway connectivity or based on placement of trip generators. People appear to be willing to travel the farthest to reach Downtown Norfolk, with travel flows from as far as southern Virginia Beach. **Figure 2-20** illustrates the pattern of trips between districts. The all-day travel flows can be grouped into the following areas:

- **Hampton and Newport News** – This area is comprised of a continuous web of connected districts that cover the Peninsula. This pattern breaks between Newport News and James City where the Yorktown Naval Weapons Station is located. The Peninsula has lower volumes of travel when compared to the districts on the Southside due to its lower population and employment.
- **Portsmouth, Northern Chesapeake, and Northern Suffolk** – This area is defined by the Nansemond, James, and Elizabeth Rivers. Within the area there are a number of large retail locations including Chesapeake Square Mall, Victory Crossing Shopping Center, and Downtown Portsmouth, which draw people between the different districts.
- **Southern Norfolk and Virginia Beach** – This area consists of a continuous web of highly trafficked districts that cover Virginia Beach and Norfolk south of the Lafayette River. This group is the largest and most active area within the study area. The most active parts of this area tend to be outside I-64 along I-264.
- **Northern Norfolk** – This area makes up the northwest corner of Norfolk and consists of districts that border Little Creek Road. These districts have relatively low trip volume overall when compared to neighboring districts on the Southside. Although districts in this group do have some travel to districts outside this group, people predominantly travel to areas along Little Creek Road.
- **Southern Chesapeake** – This area is located outside of I-64 in southern Chesapeake. These districts are mostly made up of low-density suburban housing with some rural housing in the southern parts of the area. Travel in this community is centered on Greenbrier Mall and the adjacent shopping centers. The area functions as a hub for the area and contains many retail establishment and services.

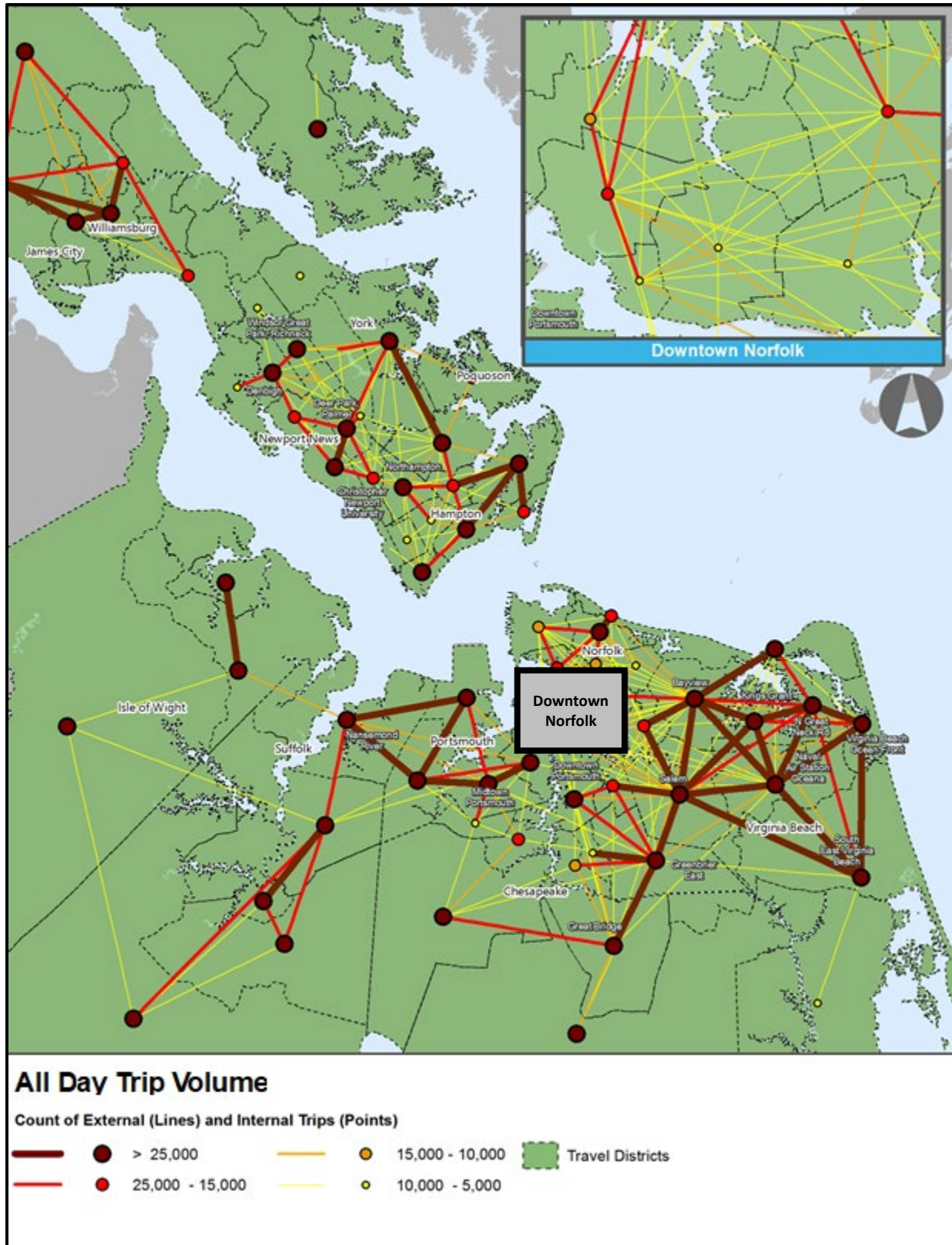
Table 2-26: Highest Internal All-Day Travel Flows within a District

Travel District	Internal Trip Count
Peninsula	
Denbigh	49,546
Christopher Newport University	36,791
Northampton	35,744
Deer Park / Palmer	33,684
Windsor Great Park / Richneck	33,347
Southside	
Salem	206,766
Lynnhaven / Naval Air Station Oceana	183,772
Bayview	180,497
Great Bridge	147,801
Nansemond River	144,980

Table 2-27: Highest External All-Day Travel Flows Between Districts

Origin	Destination	Total Trips
Salem	Lynnhaven/ Naval Air Station Oceana	129,582
Bayview	Kings Grant	79,666
Salem	Bayview	76,698
South East Virginia Beach	Lynnhaven/ Naval Air Station Oceana	74,741
Lynnhaven / Naval Air Station Oceana	Kings Grant	71,334
Midtown Portsmouth	Downtown Portsmouth	70,594
Salem	Greenbrier East	62,051
N Great Neck Rd	Virginia Beach Ocean Front	51,693
Lynnhaven / Naval Air Station Oceana	Bayview	49,732
Great Bridge	Greenbrier East	44,682

Figure 2-20: All-Day Travel Flow Volume Between Districts



Peak Period Travel

Peak period travel examines home based work trips during the peak commuting hours (6:00 a.m.–9:00 a.m. and 3:00 p.m.–6:00 p.m.) to understand commuting patterns.

On the Southside, the density of peak trip origins is centered around Downtown Norfolk, with the highest density area occurring in Downtown Norfolk south of Brambleton Ave. In that area of Downtown Norfolk, there were found to be eight trips per acre during the peak periods. Outside of Downtown Norfolk, the highest volumes of peak period trips occur in large suburban districts outside I-64 in western Virginia Beach. Of these districts the highest trip origin volume is from Salem which had 49,976 trips in the peak period (three trips per acre). The highest density of peak period trip destinations can be found in Downtown Norfolk—an area that also holds the highest density of employment in the region. Districts with large employment centers, including Downtown Portsmouth and Naval Station Norfolk, also saw high density and volume of trips in the peak period.

On the Peninsula, the highest density and volume of trips comes from a collection of districts toward the middle of the Peninsula, including Denbigh, Northampton, and Windsor Great Park/Richneck. The highest density of trip destinations was to the Newport News Shipbuilding district.

Table 2-28 details the districts with the highest density of peak period trip origins and **Figure 2-21** illustrates the density of peak period trip origins throughout the region. The highest density areas of trip destinations on the Peninsula and on the Southside are detailed in **Table 2-29** and **Figure 2-22** illustrates the density of peak trip destinations throughout the region.

Table 2-28: Travel Districts with the Highest Density of Peak Period Trip Origins

Area	District Name	Number of Trip Origins	Density (Trips/Acre)
Southside	Downtown Norfolk	2,408	8
	Ghent	6,078	5
	Ocean View Ave	6,956	4
	Salem	49,976	3
	Lafayette-Winona	3,245	3
Peninsula	Windsor Great Park, Richneck	7,354	3
	Northampton	9,106	2
	Downtown Newport News	5,316	2
	Denbigh	10,084	2
	Deerfield, Kiln Creek, Bayberry	3,805	2



Table 2-29: Travel Districts with a High Density of Peak Period Trip Destinations

Area	District Name	Activity Centers	Number of Trip Destinations	Density (Trips / Acre)
Southside	Downtown Norfolk	Downtown Norfolk, MacArthur Center, Norfolk Circuit Court, Norfolk City Hall, Bank of America, Tidewater Community College - Norfolk	31,460	99
	Ghent	Norfolk General Hospital, Children's Health System (CHKD), Eastern Virginia Medical School, US Army Corps of Engineers	22,658	17
	Downtown Portsmouth	Downtown Portsmouth, Portsmouth Naval Medical Center, Bon Secours Maryview Medical Center, Naval Medical Center Portsmouth, Norfolk Naval Shipyard	33,309	8
	Naval Station Norfolk	Naval Station Norfolk, Naval Support Activity Norfolk	37,109	7
	Military Circle	Lake Taylor Hospital, Sentara Leigh Hospital, Military Circle Mall, Janaf Shopping Center, PRA Group, Inc., Virginia Wesleyan College	20,108	5
Peninsula	Newport News Shipbuilding	Huntington Ingalls Industries, Inc. (Newport News Shipbuilding), Downtown Newport News	10,241	10
	Deer Park / Palmer	City Center at Oyster Point, Patrick Henry Mall, Oyster Point Square, Canon, Inc., Marketplace at Tech Center	18,454	6
	Mercury Central	Coliseum Square Center, Coliseum Crossing Shopping Center, Sentara CarePlex Hospital, Peninsula Town Center, Langley Air Force Base	10,140	4
	Newport News / Williamsburg International Airport	Mary Immaculate Hospital, Jefferson Commons	4,902	3
	Downtown Newport News	Downtown Newport News	5,783	3

Figure 2-21: Density of Peak Period Trip Origins

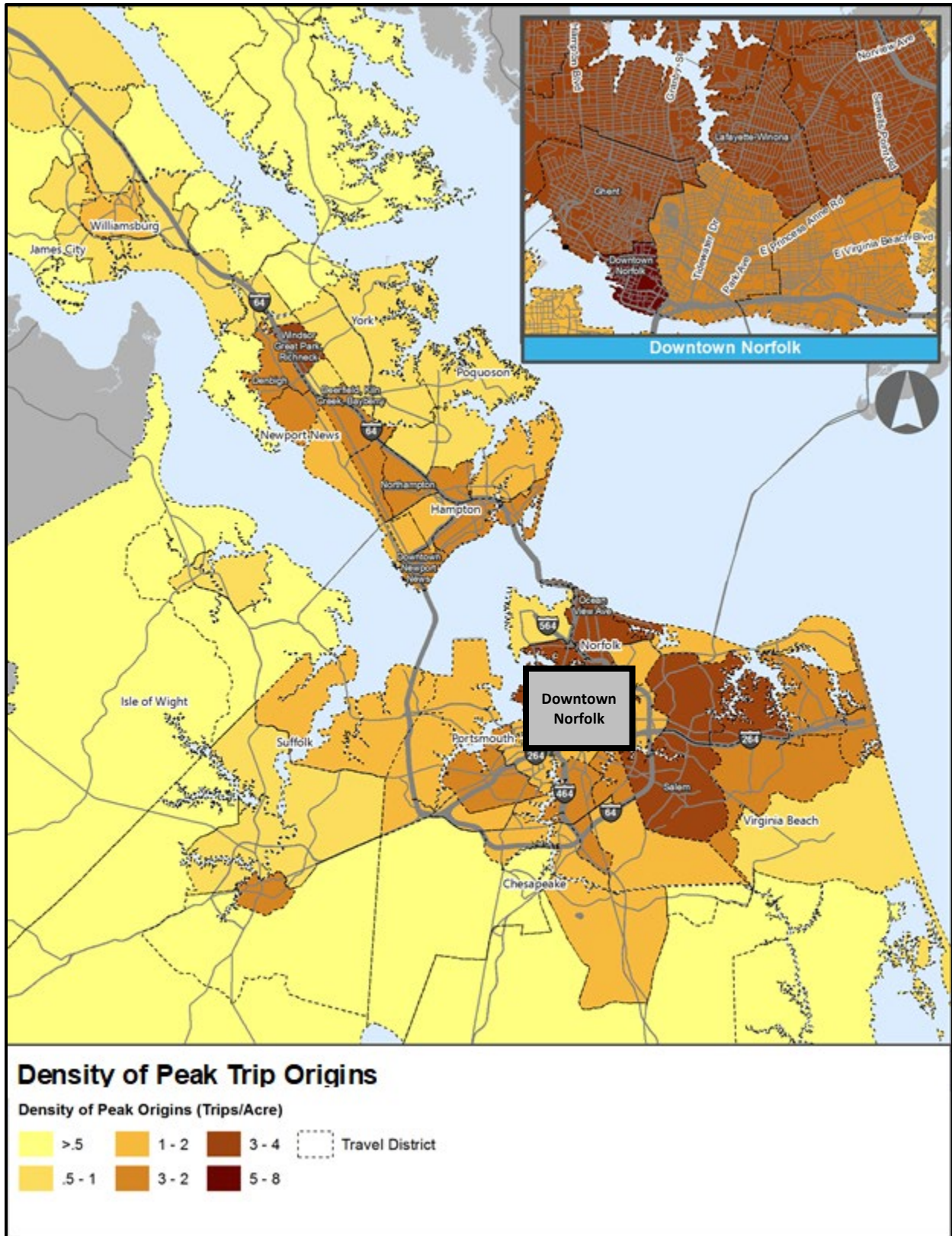
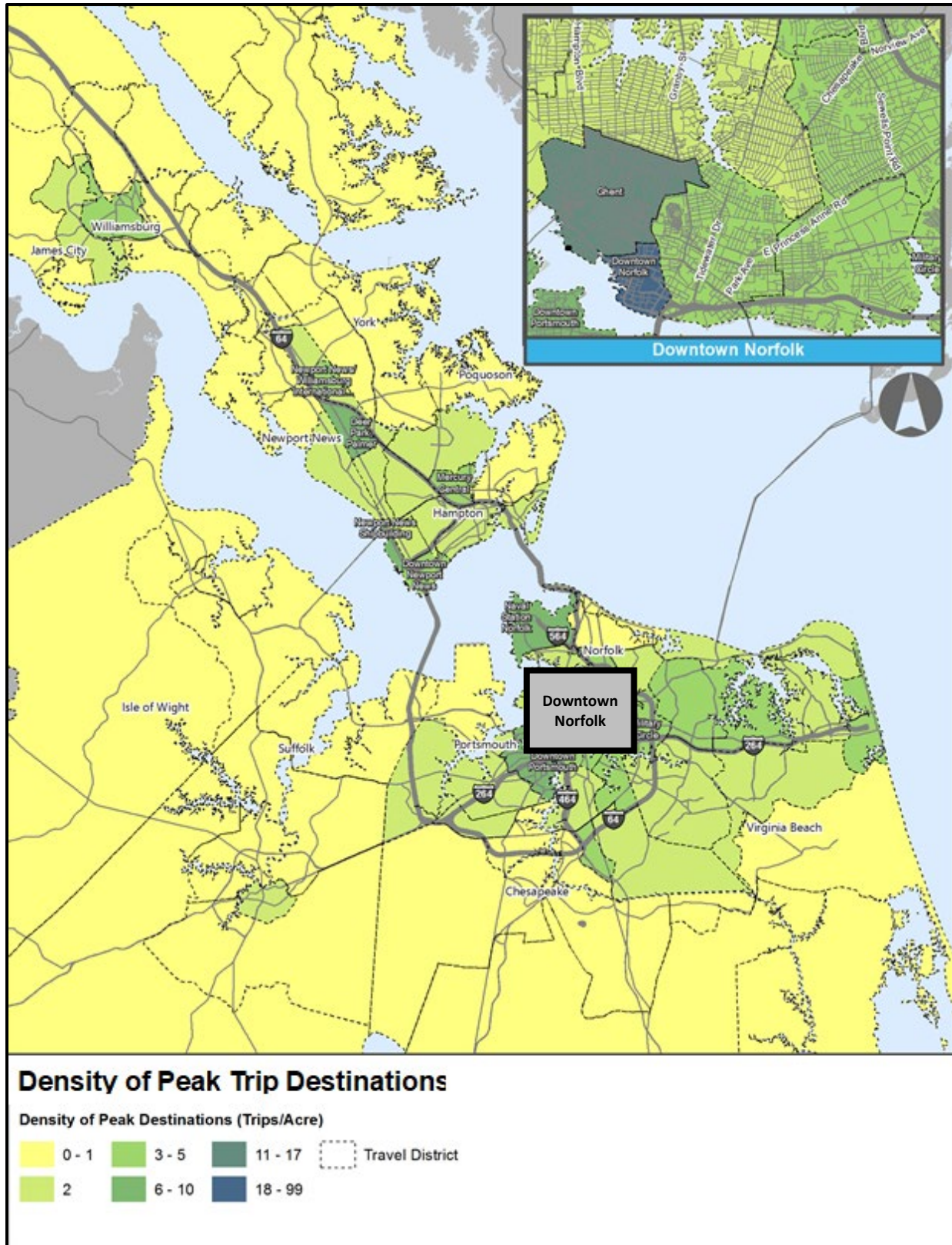


Figure 2-22: Density of Peak Period Trip Destinations



The analysis of peak travel patterns shows that people travel greater distances for work trips during the peak than for non-work trips. Internal district trips make up a much smaller portion of the overall travel during the peaks than all-day; **Table 2-30** and **Table 2-31** show the highest internal and external district travel flows during the peak periods. The highest internal travel flow is 7,580 peak hour trips in the Lynnhaven Mall / Naval Air Station Oceana district. This district contains a large military employer and a large residential area where many of those employees likely live. The highest external flow between districts is 7,255 peak hour trips primarily from the residential area in Salem to Lynnhaven Mall / Naval Air Station Oceana.

Figure 2-23 shows peak period travel patterns within the region. Employment centers are central destinations that draw workers from the surrounding areas. The largest employment centers have notable travel patterns associated with them:

- **Naval Station Norfolk** - This district is located in the northwestern section of Norfolk and attracts employees from every county within the study area. It houses the largest employer in the region, Naval Station Norfolk. The majority of the workforce is spread around along the I-64/264 corridor and the southern portion of I-64.
- **Lynnhaven / Naval Air Station Oceana** - This district is located in central Virginia Beach. Most of the employment within this area comes from the Naval Air Station Oceana, but the district also contains other employment centers such as Lynnhaven Mall and Tidewater Community College. The majority of employees within this district appear to travel from the adjacent districts along the I-264 corridor.
- **Downtown Norfolk** - The downtown houses various public and private employers. People who work in this district primarily commute from Norfolk or northwest Virginia Beach. The remainder commute across the river from Portsmouth and northern Chesapeake.
- **Deer Park / Palmer** - This district contains a collection of employers in the technology sector as well as the Canon Factory Service Center. Employees of this district live in the neighboring areas but a large number appear to commute from southern York.

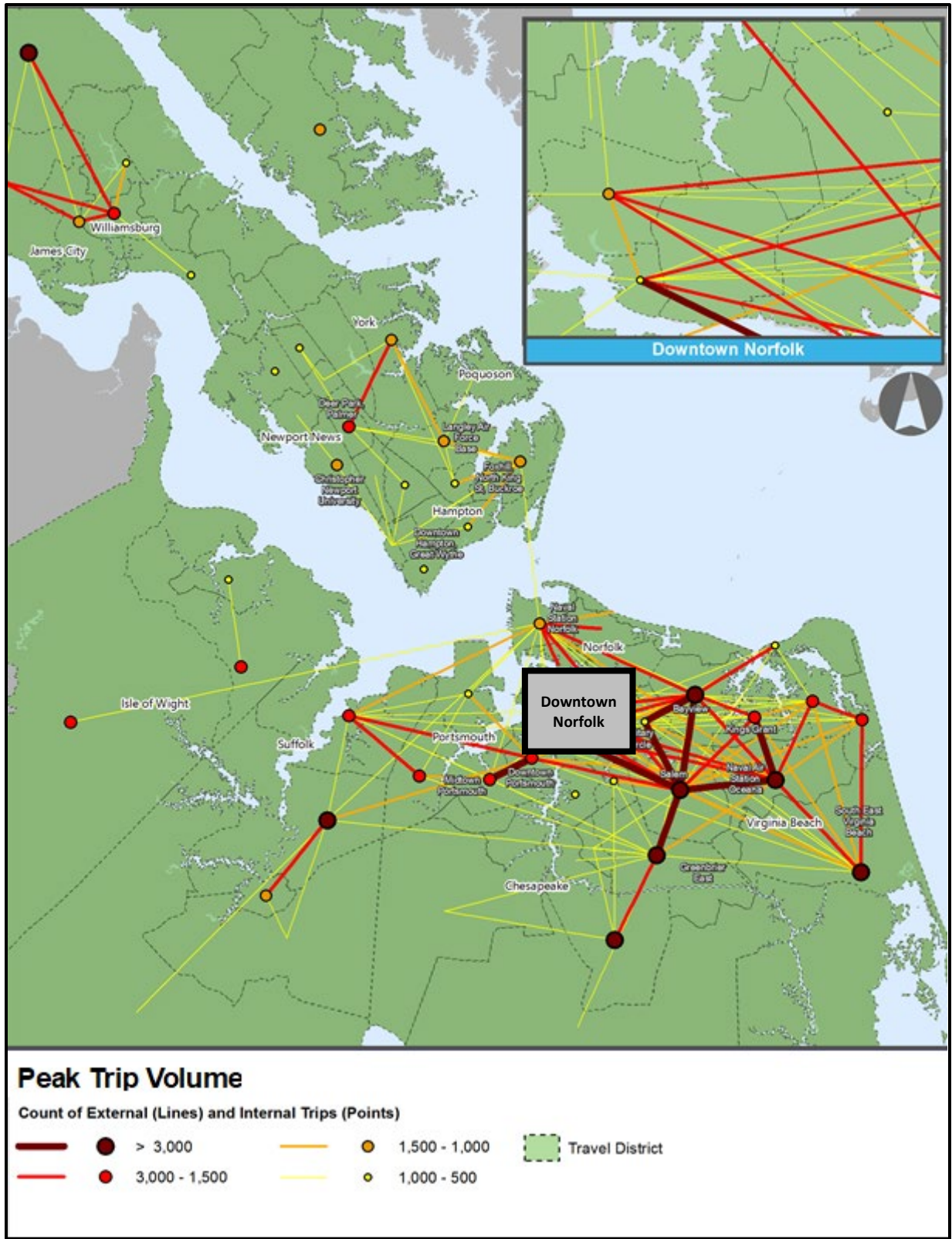
Table 2-30: Highest Internal Peak Period Travel Flows within a District

Travel District	Internal Trip Count
Peninsula	
Deer Park / Palmer	1,692
Foxhill / North King St / Buckroe	1,236
Langley Air Force Base	1,108
Christopher Newport University	1,067
South West Hampton	841
Southside	
Lynnhaven / Naval Air Station Oceana	7,580
Bayview	6,871
Salem	5,663
Greenbrier East	4,839
South East Virginia Beach	4,021

Table 2-31: Highest External Peak Period Travel Flows within a District

Origin	Destination	Total Trips
Salem	Naval Air Station Oceana	7,255
Salem	Bayview	5,848
South East Virginia Beach	Naval Air Station Oceana	5,779
Bayview	Kings Grant	5,234
Naval Air Station Oceana	Kings Grant	5,197
Midtown Portsmouth	Downtown Portsmouth	5,059
Salem	Greenbrier East	4,720
Naval Air Station Oceana	Bayview	4,411
Salem	Downtown Norfolk	4,340
Bayview	Military Circle	3,880

Figure 2-23: Volume of Peak Period Travel Between Districts



2.2.2 Transit Demand and Underserved Area Opportunities for Improvement

After determining the market for different types of transit services—in terms of transit propensity for different trip types and general travel flows—a gap analysis was conducted to compare the existing transit service to transit demand to find areas that could benefit from new or increased service.

Two types of service gaps were identified:

- **Level of Service:** where more service could be implemented.
- **Coverage:** where services could be expanded.

This gap analysis sheds light both on how well existing transit services meet current demand, as well as how planned transit services could reach new markets.

Level of Service Analysis

Based on the five transit propensity indices—Transit-Oriented Population, Commuter, Workplace, and Non-Work—and their underlying data, several additional transit propensity indices were developed to aid in identifying the types of transit service potentially suitable for locations within the HRT service area.

All-Day Service Index

The All-Day Service Index identifies locations suitable for all-day transit service by combining the results of the Transit-Oriented Population and Non-Work Indices. At both peak and off-peak hours, locations with significant transit-oriented populations are presumed to require connections to and from jobs or non-work-related trip destinations. This results in a propensity index that identifies major origins or destinations for transit trips that would occur throughout the day.

Areas with high All-Day Service Index scores largely reflect those with high Transit-Oriented Populations, or downtowns, government centers, and medical and educational campuses. On the Peninsula, areas with a higher need for all-day service include neighborhoods along Warwick Boulevard, such as Denbigh and Jenkins, and along Mercury Boulevard, in particular within the Newmarket neighborhood and around the Peninsula Town Center. Downtown Newport News and Downtown Hampton also have higher all-day service needs. On the Southside, the need for all-day service is most prevalent in Downtown Norfolk and Portsmouth, but also along major corridors such as Granby Street and Chesapeake Boulevard in Norfolk, Virginia Beach Boulevard between Norfolk and Virginia Beach, Indian River Road in Virginia Beach, and Portsmouth Boulevard in Portsmouth.

These higher propensity areas for all-day service are opportunities for expanding service during off-peak hours such as midday or later into the evening. **Figure 2-24** and **Figure 2-25** show the All-Day Service Index for the Peninsula and Southside, respectively.

Peak Service Index

The Peak Service Index identifies locations suitable for peak-period service by combining results from the Commuter and Workplace Indices. Locations with significant numbers and densities of commuters are presumed to require connections to and from locations with significant numbers and densities of jobs, especially at peak hours. This results in a propensity index that identifies major origins and destinations for transit trips that would occur during peak hours.

On the Peninsula, areas with a higher propensity or need for peak hour services include along Denbigh Boulevard and J Clyde Morris Boulevard, within the Peninsula Town Center, at the Newport News Shipbuilding, and in Downtown Hampton. On the Southside, major employment centers such as Naval Station Norfolk, the Joint Expeditionary Base – Fort Story, Chesapeake Municipal Center, and the Naval Medical Center Portsmouth have larger needs for peak service, as well as in areas with high volumes of job opportunities such as Downtown Norfolk and along the I-264 corridor to Virginia Beach, and areas with significant concentrations of commuters, such as more suburban portions of Chesapeake, Newport News, and Virginia Beach.

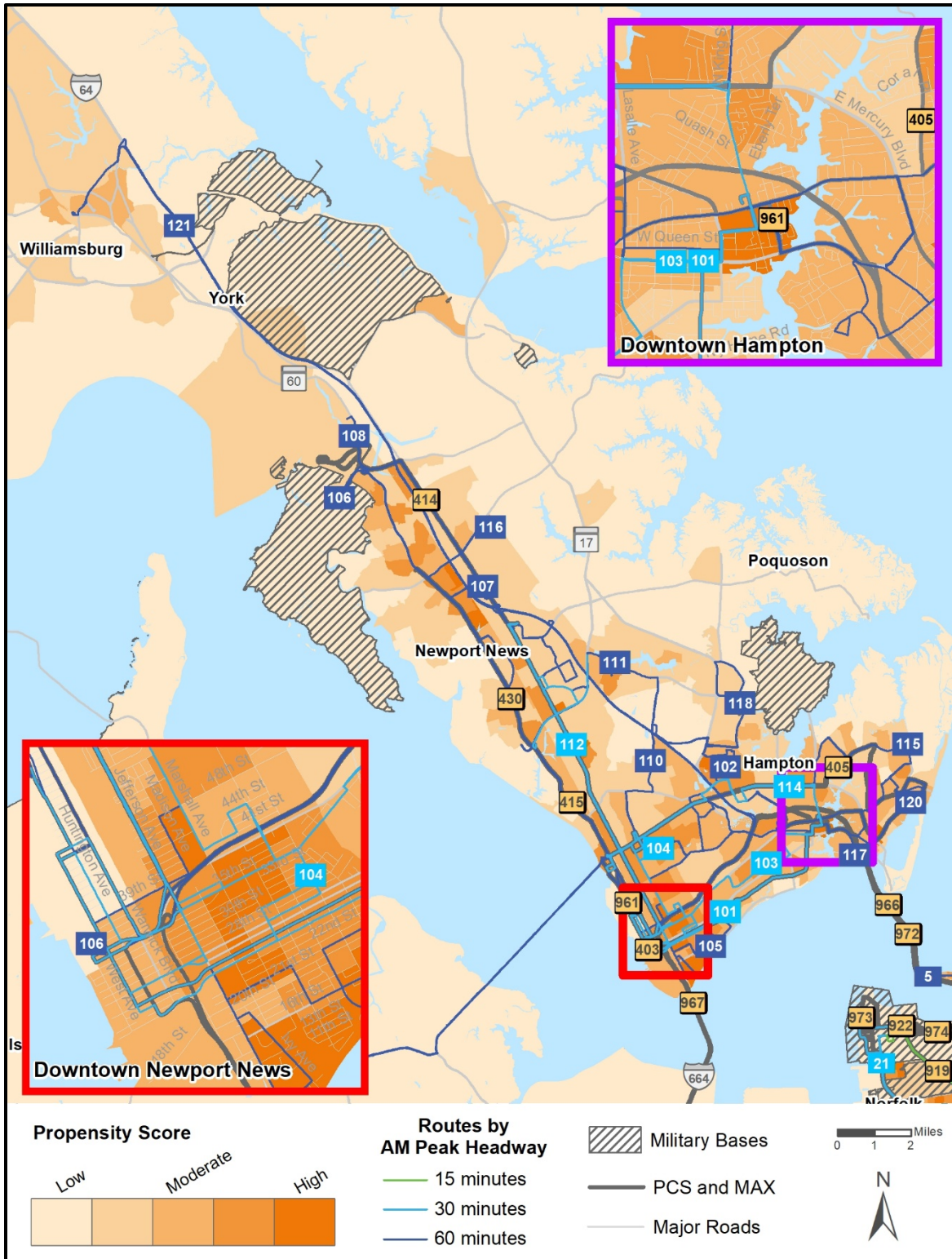
These areas identified as having a high propensity for peak service would benefit from an increased frequency during peak hours to service both higher commuter populations and connecting with larger concentrations of job opportunities. **Figure 2-26** and **Figure 2-27** show the Peak Service Index for the Peninsula and Southside, respectively.

Multimodal Service Index

The Multimodal Service Index identifies origins and destinations that could support high-quality, all-day transit service by combining results from the Transit-Oriented Population, Commuter, Workplace, and Non-Work propensity indices. Locations with significant populations and densities of both transit-oriented populations and commuters are presumed to require connections to and from locations with jobs and non-work destinations. This results in a propensity index that identifies major origins or destinations for high-quality, all-day transit service.

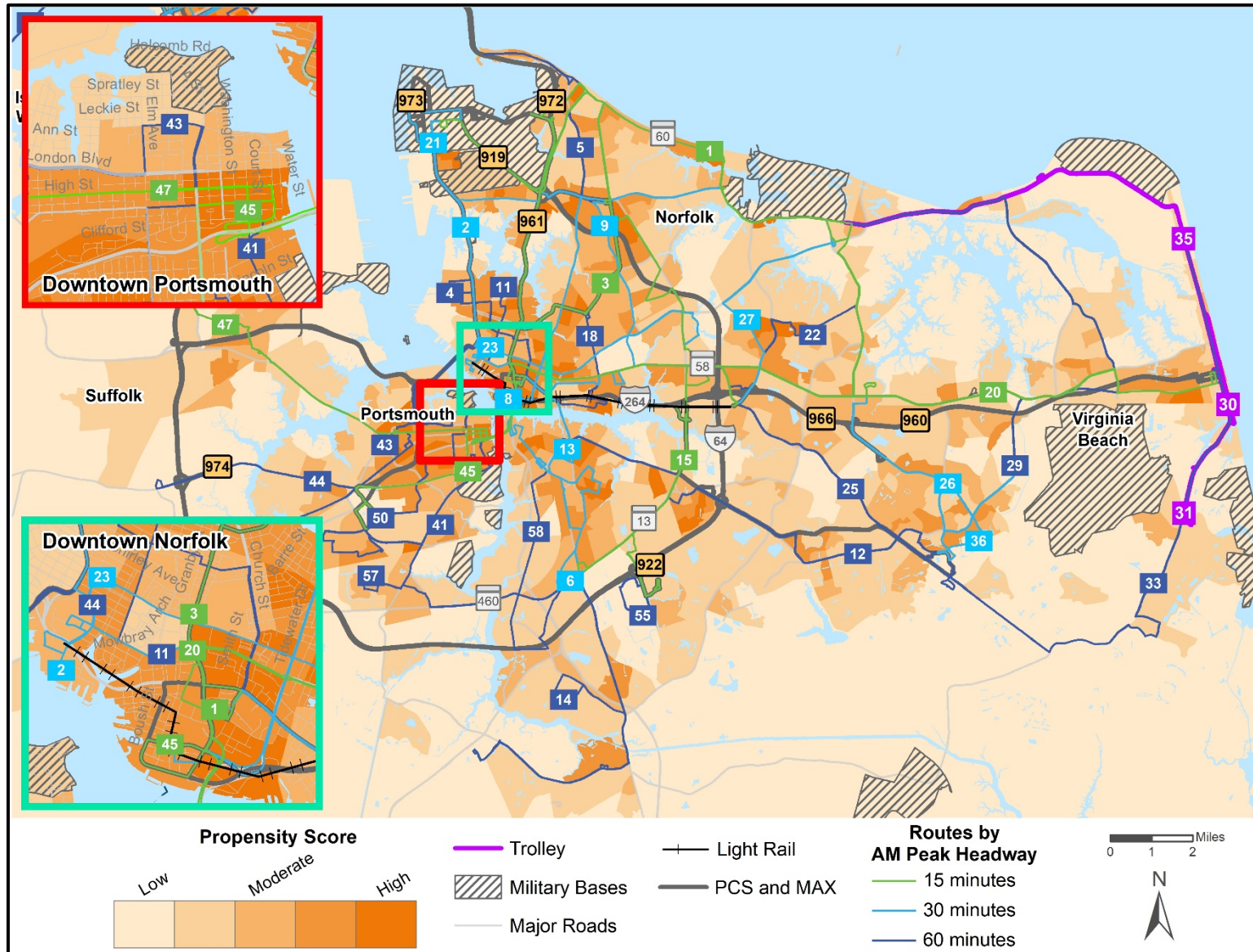
Clusters of areas with moderate-to-high Multimodal Service Index Scores can be seen along the I-264 corridor in Virginia Beach, in the downtown cores of Newport News, Hampton, Norfolk, and Portsmouth, and in clusters along the I-64 corridor between Chesapeake and Naval Station Norfolk. **Figure 2-28** and **Figure 2-29** show the Multimodal Service Index for the Peninsula and Southside, respectively.

Figure 2-24: Peninsula – All-Day Service Index



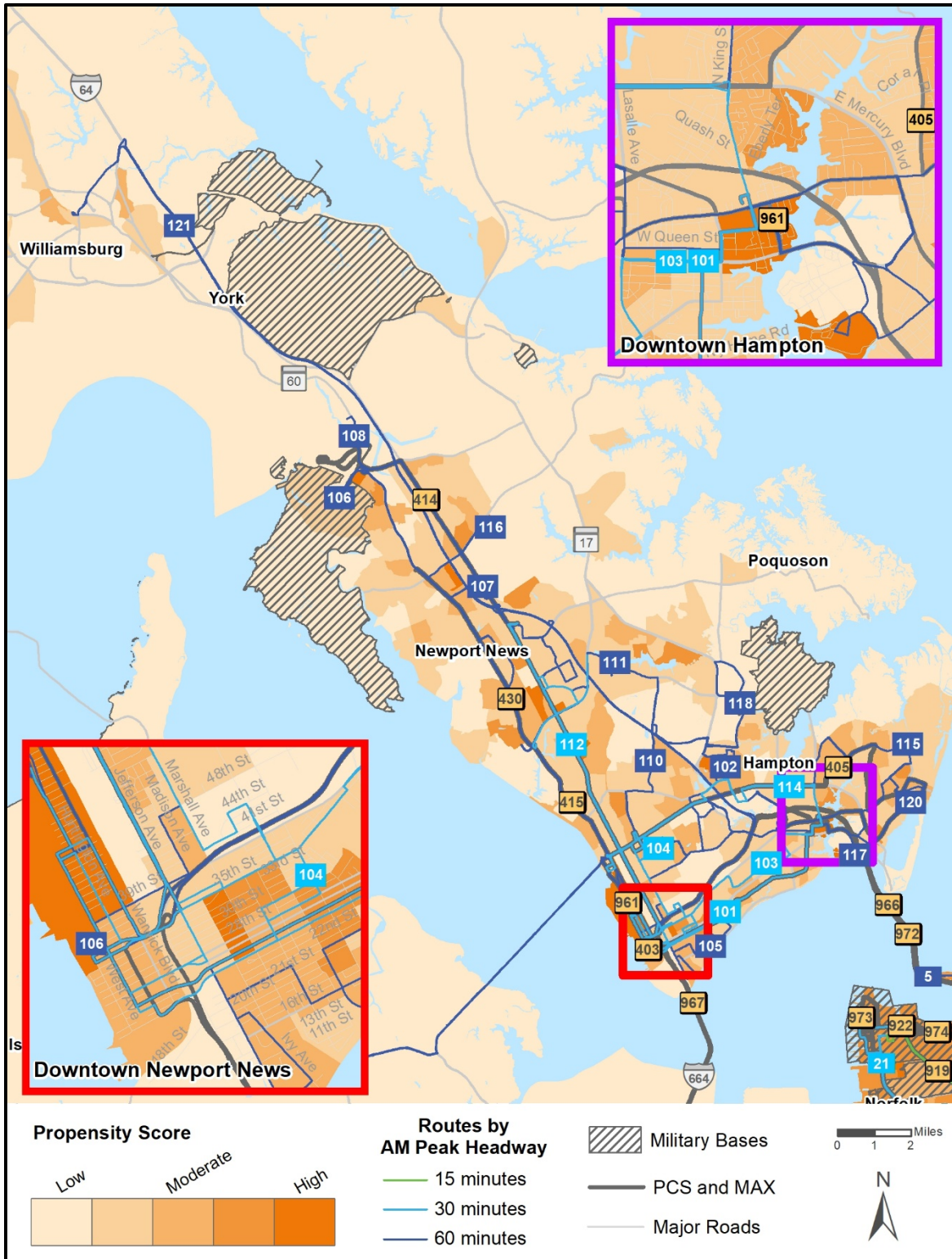
Source: HRT Routes Fall 2018

Figure 2-25: Southside – All-Day Service Index



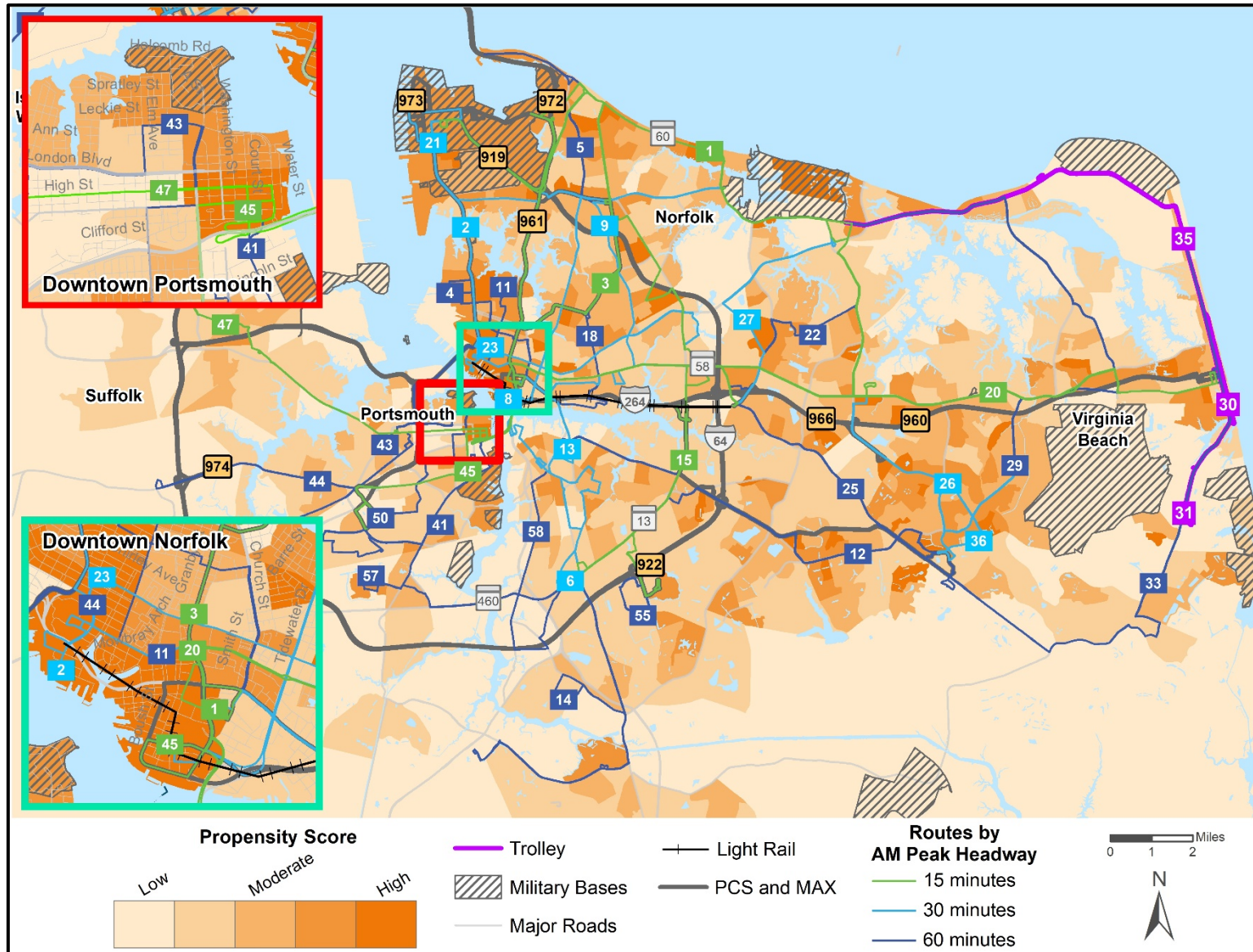
Source: HRT Routes Fall 2018

Figure 2-26: Peninsula – Peak Service Index



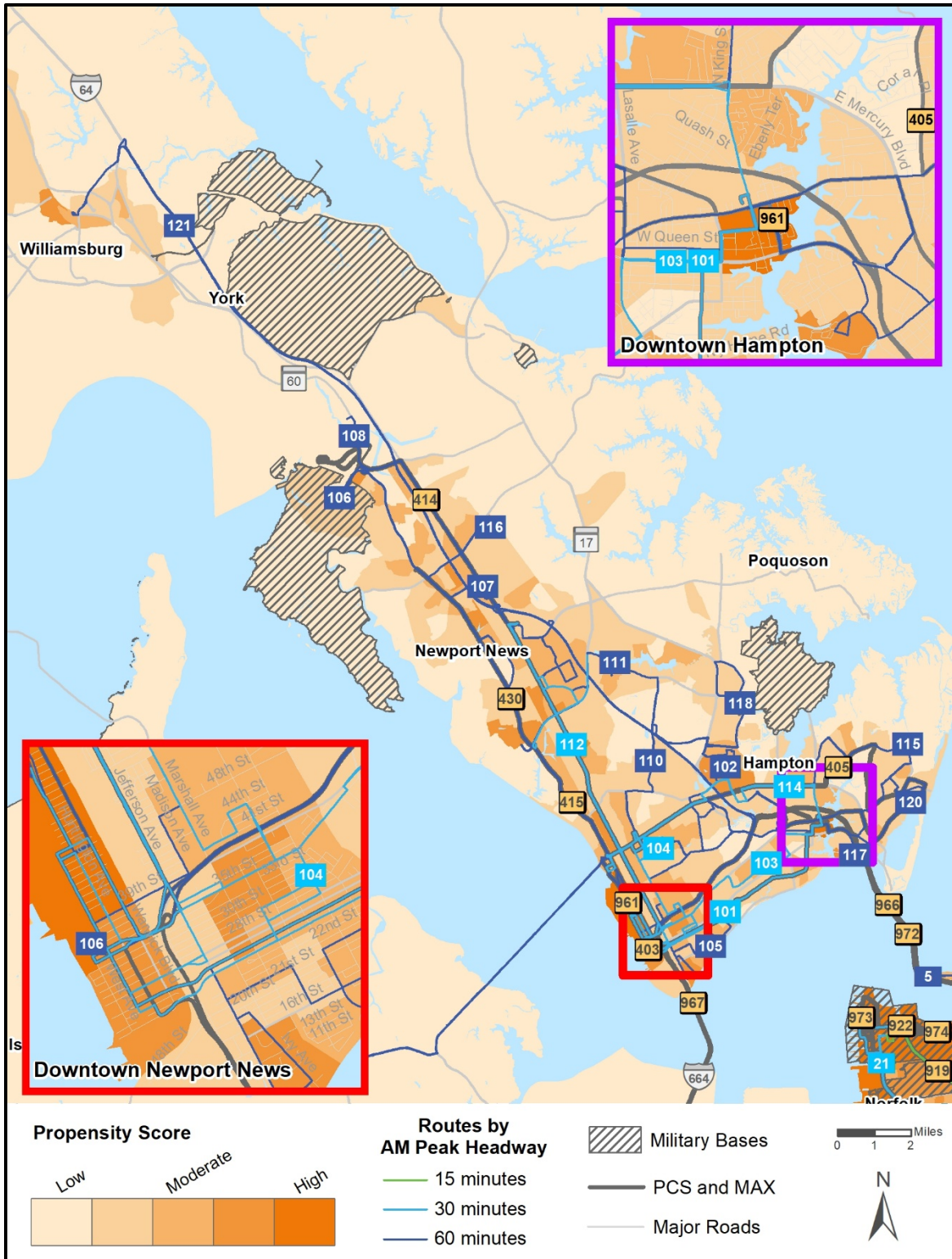
Source: HRT Routes Fall 2018

Figure 2-27: Southside – Peak Service Index



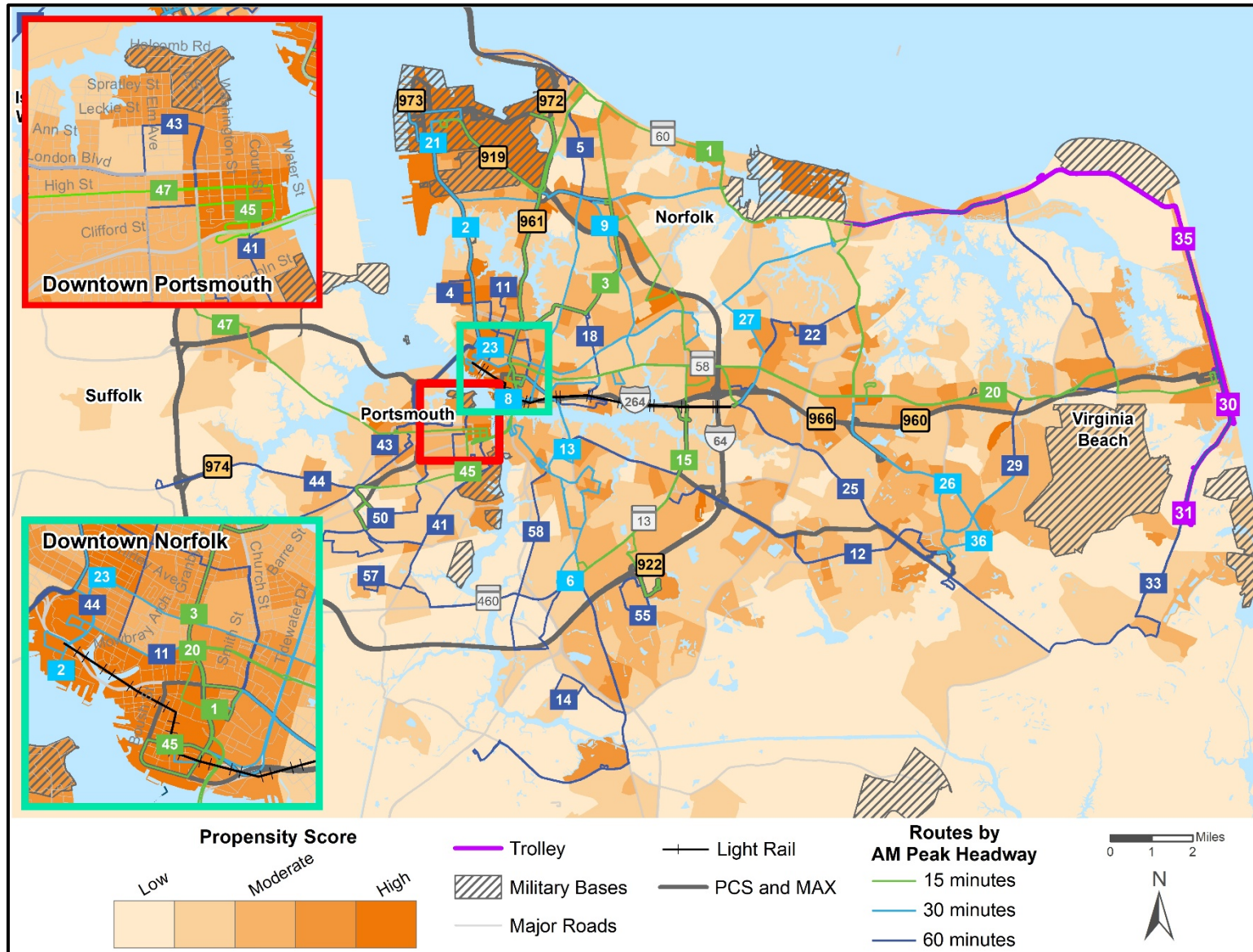
Source: HRT Routes Fall 2018

Figure 2-28: Peninsula – Multimodal Service Index



Source: HRT Routes Fall 2018

Figure 2-29: Southside – Multimodal Service Index



Source: HRT Routes Fall 2018

Coverage / Connection Gap Analysis

HRT provides coverage over much of the areas within the six member jurisdictions identified as needing transit service with local, express, and commuter bus service, along with The Tide light rail, despite a challenging geographic area that is both very large and heavily segmented by the many rivers and limited by the bridges and tunnels that connect the areas.

Looking ahead, as the population and employment of the region changes and the region strives to retain and attract talent for a thriving economy, it becomes necessary to evaluate the existing transit network to ensure there are no gaps in service where current and future demands will not be met. This analysis compares the current transit supply per period to the future travel demands as forecasted through the HRTPO Regional Travel Demand Forecasting Model.

The following analysis uses the travel flows analyzed as the measure of future travel demands. The travel flows were compared against the propensity indices to approximate the demand for transit between districts. All-day trip volumes were adjusted based on the Transit-Oriented Population and Non-Work propensity of their origin and destination districts, while peak trip volumes were adjusted using Commuter and Workplace propensity.

The transit supply, in terms of the number of weekday trips per period, was calculated from HRT's GTFS feed from fall 2016²⁸ which contains the schedule, route, and bus stop information for all HRT services. The level of service measure was applied to any areas within a quarter mile of a bus stop.

These measures of transit supply and travel demand were used to identify three types of gaps in transit service.

- **Low Level of Service:** Evaluates if an existing direct connection provides a sufficient number of trips for the travel flow between districts by comparing the number of trips that directly connect travel districts to volume of trips between them.
- **Lacks Direct Connection:** Evaluates person trips within the existing service area that require difficult transfers. In this case, the number of transfer opportunities between routes is used as a measure of difficulty.
- **New Service Area:** Evaluates the total volume of person trips between districts for connections where one or more of the districts does not have access to transit.

All-Day Coverage Gaps

All-day service gaps, or lack of service between popular origin-destination pairs, exist in several locations throughout the service area.

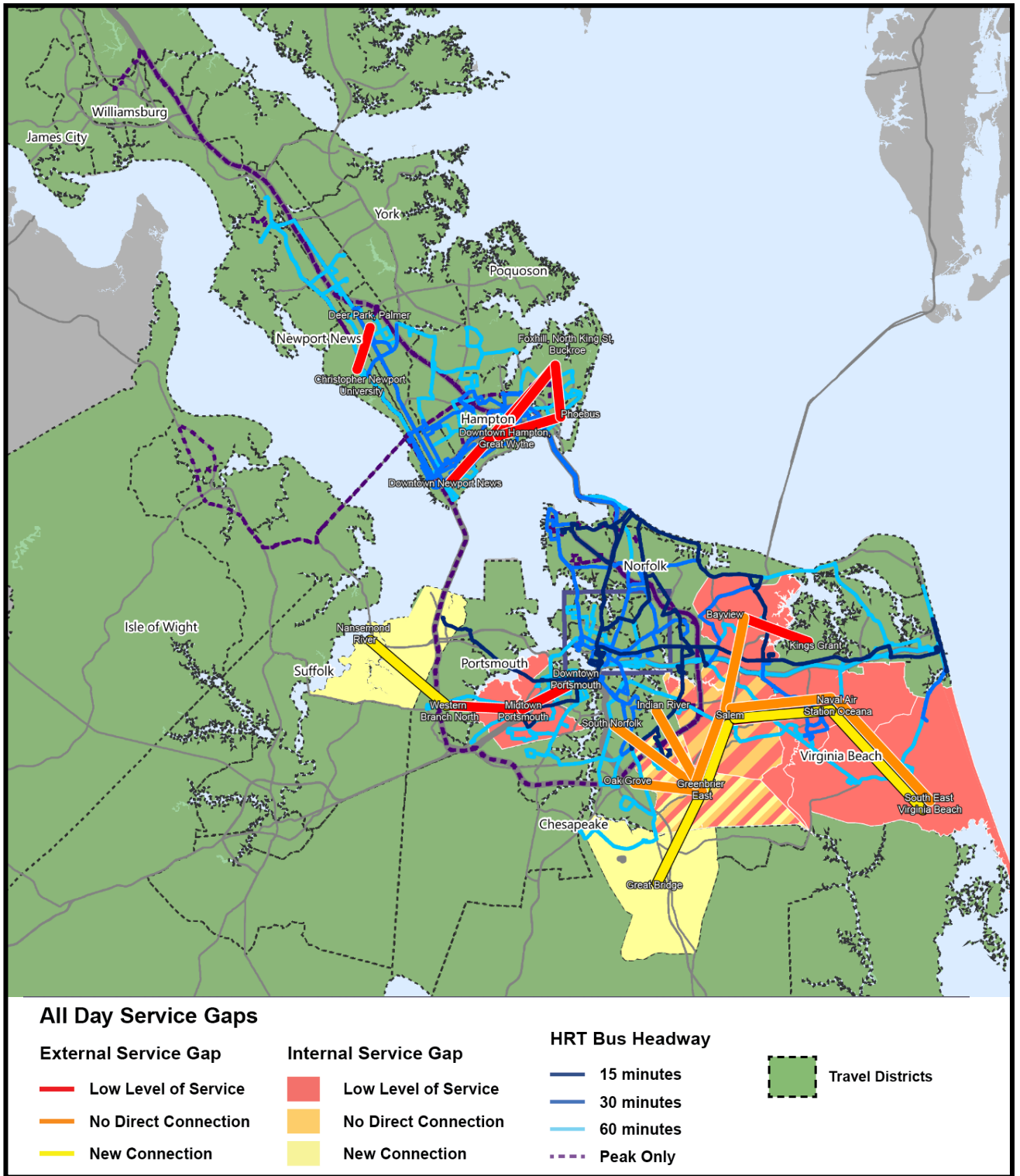
Low levels of all-day service were identified in three general areas: Hampton, Portsmouth, and throughout Virginia Beach. In Hampton, gaps were identified between all three districts on the eastern portion of the city (Downtown Hampton / Greater Wythe, Phoebus, and Foxhill / North King St / Buckroe), suggesting there is a greater need for transit trips that circulate throughout the area. Virginia Beach showed a chain of districts along I-264 that need increased levels of service to Salem. Additionally, there was an isolated gap in Newport News between Christopher Newport University and the Deer Park area.

Gaps in direct connections and new service areas were both identified in one general area, between northeast Chesapeake and central Virginia Beach. Routes extend to this area radially from Downtown Norfolk which currently necessitates multiple transfers in order to cross the region. Additionally, this area has limited coverage within its neighborhoods and presents the largest new market available within the HRT service area and member cities jurisdictions.

The all-day coverage and connection gaps identified through this analysis could be addressed with increased levels of service on routes connecting the various regions, or new services that could include fixed-route or alternative types of services. **Figure 2-30** illustrates the service gaps that were identified through this analysis.

²⁸ Analysis from the HRT FY 2018 – FY 2027 Transit Development Plan

Figure 2-30: All-Day Service Gaps

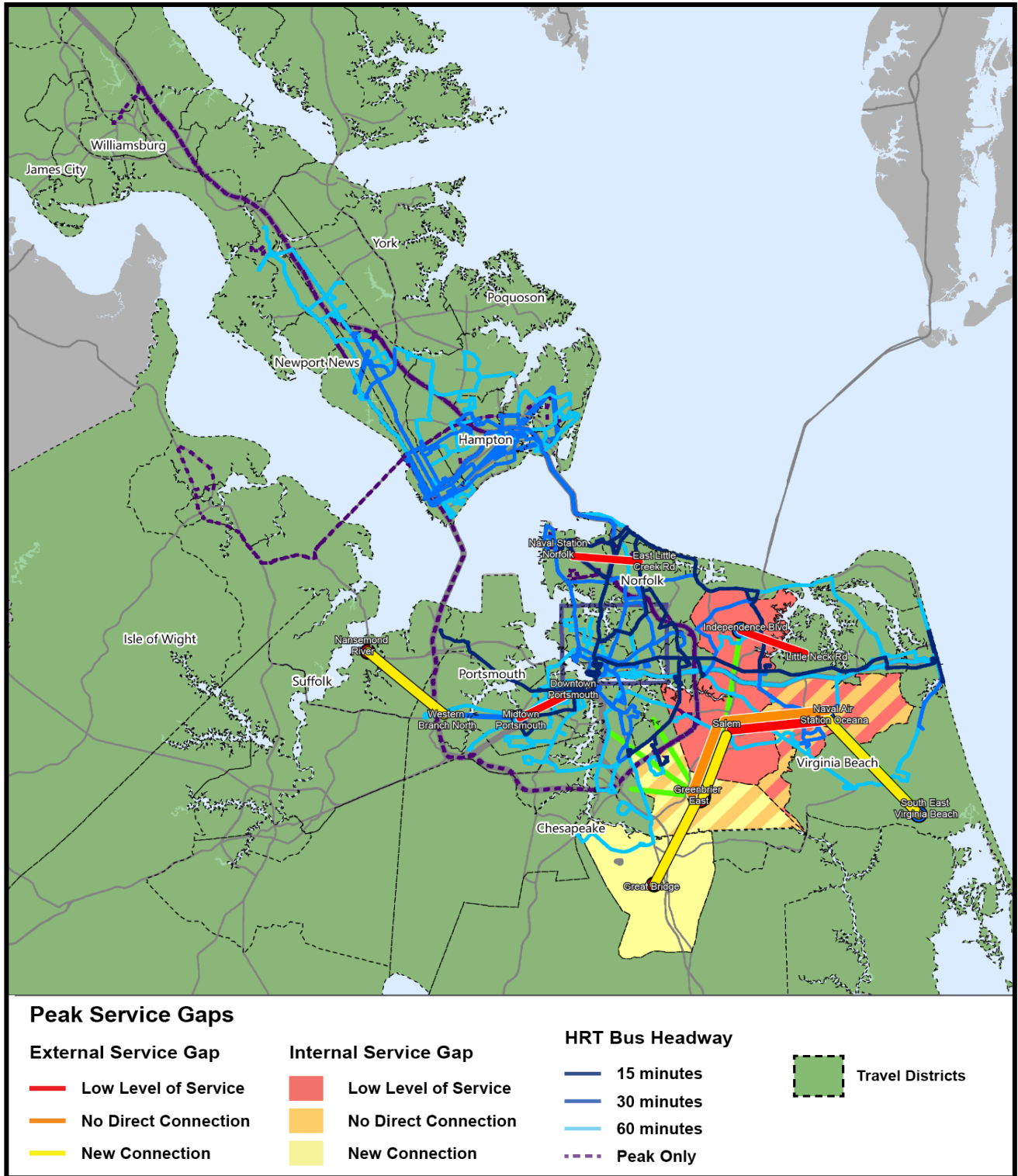


Peak Coverage Gaps

Most of the peak period service gaps that were identified were also identified as all-day service gaps, including those in Virginia Beach and Portsmouth. In addition, there is a gap in peak period level of service in Norfolk on East Little Creek Road between JEB Little Creek and Naval Station Norfolk. Service between these districts is currently provided by Route 21.

The coverage and connection peak gaps identified through this analysis could be addressed with increased peak levels of service on routes connecting the various regions, or new services that could include fixed-route or alternative types of services. **Figure 2-31** illustrates the service gaps that were identified through this analysis.

Figure 2-31: Peak Service Gaps



2.3 Performance Evaluation

2.3.1 Performance Evaluation

Fixed-Route Service Effectiveness

Service effectiveness, which is expressed by showing the number of passengers per revenue hour and passengers per revenue mile, reflects the return that HRT receives on its investment. Each HRT route requires an investment of resources which is quantified by revenue hours and revenue miles. The relative success of each investment is measured by the ridership that each route generates.

Ridership

Passengers per Revenue Hour

Passengers per revenue hour is a comparison of the total passengers carried on a route to the total number of revenue (or service) hours operated by the route. It is used to determine the productivity of a route's average revenue hour. Passengers per revenue hour by route is illustrated in **Figure 2-32**.

Route 120 (Downtown Hampton / Mallory / Buckroe) was the most productive route in FY 2019, with 34 passengers per revenue hour; Route 430 (Denbigh Fringe) and Route 117 (Hampton University / V.A. Hospital) are also productive, with 25 or more passengers per revenue hour.

The average number of passengers per revenue hour across the entire system is 14.8. The average number of passengers per revenue hour for Southside routes is 15.3; for Peninsula routes, 15.1; for PCS/MAX routes, 10.4; and for VB Wave and Bayfront Shuttle routes, 11.6 passengers per revenue hour.

Passengers per Revenue Mile

Passengers per revenue mile is a comparison of the total passengers carried on a route to the total number of revenue (or service) miles operated by the route. It is used to determine the productivity of a route's average revenue mile. Route level passengers per revenue mile for FY 2019 is shown in **Figure 2-33**.

When measured by passengers per revenue mile, Route 430 (Denbigh Fringe) is the most productive, carrying six passengers per revenue mile, followed by Route 30 (Oceanfront Shuttle), which carries three passengers per revenue mile, and Route 405 (NNTC/Buckroe) which carries 2.5 passengers per revenue mile.

The system wide average number of passengers per revenue mile is 1.0. The Southside and Peninsula routes' average number of passengers per revenue mile are slightly higher than the system wide average, at 1.2 and 1.1 passengers per revenue mile, respectively. The PCS and MAX routes perform lower on average, at 0.4 passengers per revenue mile, while VB Wave and Bayfront Shuttle routes are above average at 1.4 passengers per mile.

Passengers per One-Way Trip

Passengers per trip is a comparison of the total passengers carried on a route to the total number of trips on the route. This is used to determine the productivity of a route on a per trip basis. **Figure 2-34** shows passengers per one-way trip by route for FY 2019.²⁹

For FY 2019, Route 20 (Downtown Norfolk / Virginia Beach Oceanfront) averaged 56 passengers per one-way trip, the highest in the HRT fixed-route bus system. Other high performers are Route 966 (Silverleaf Park and Ride / Newport News Transit Center), Route 403 (Buckroe Shopping Center), and Route 430 (Denbigh Fringe), which all average more than 36 passengers per trip. The least productive routes were Route 973 (Portsmouth / Naval Station Norfolk), Route 974 (Chesapeake / Naval Station Norfolk), and Route 26 (TCC Virginia Beach / Lynnhaven Mall) with one, two, and three passengers per trip, respectively.

Overall, HRT routes carry 13.5 passengers per one-way trip. The average number of passengers per trip for Southside Routes is 14.5; for VB Wave routes, 6.1; for Peninsula routes, 12.5; and for PCS/MAX routes, 16.1 passengers per trip.

²⁹ VB Wave routes (Route 30, Route 31, and Route 35) are excluded from this analysis.

Figure 2-32: Passengers per Revenue Hour, FY 2019

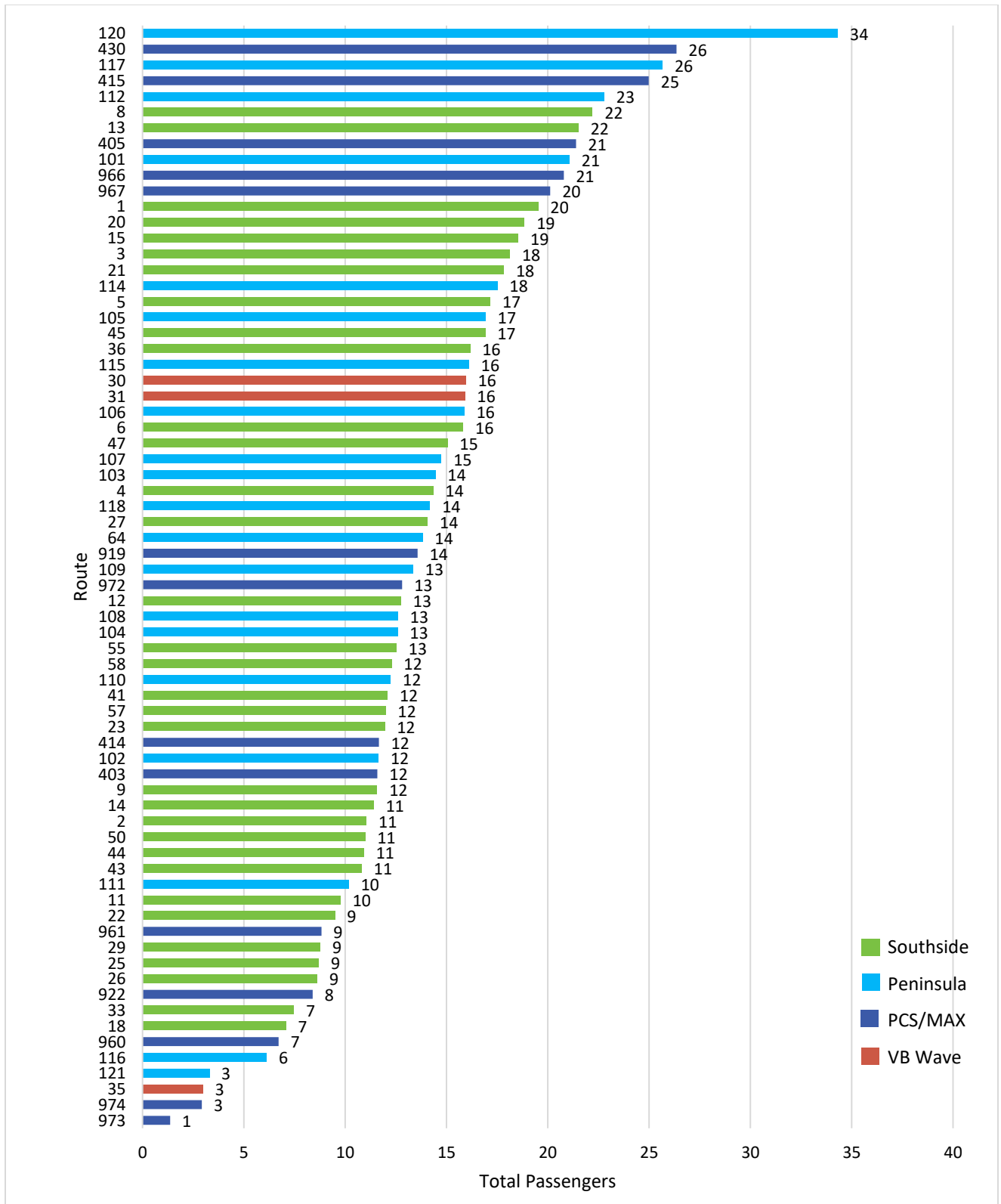


Figure 2-33: Passengers per Revenue Mile, FY 2019

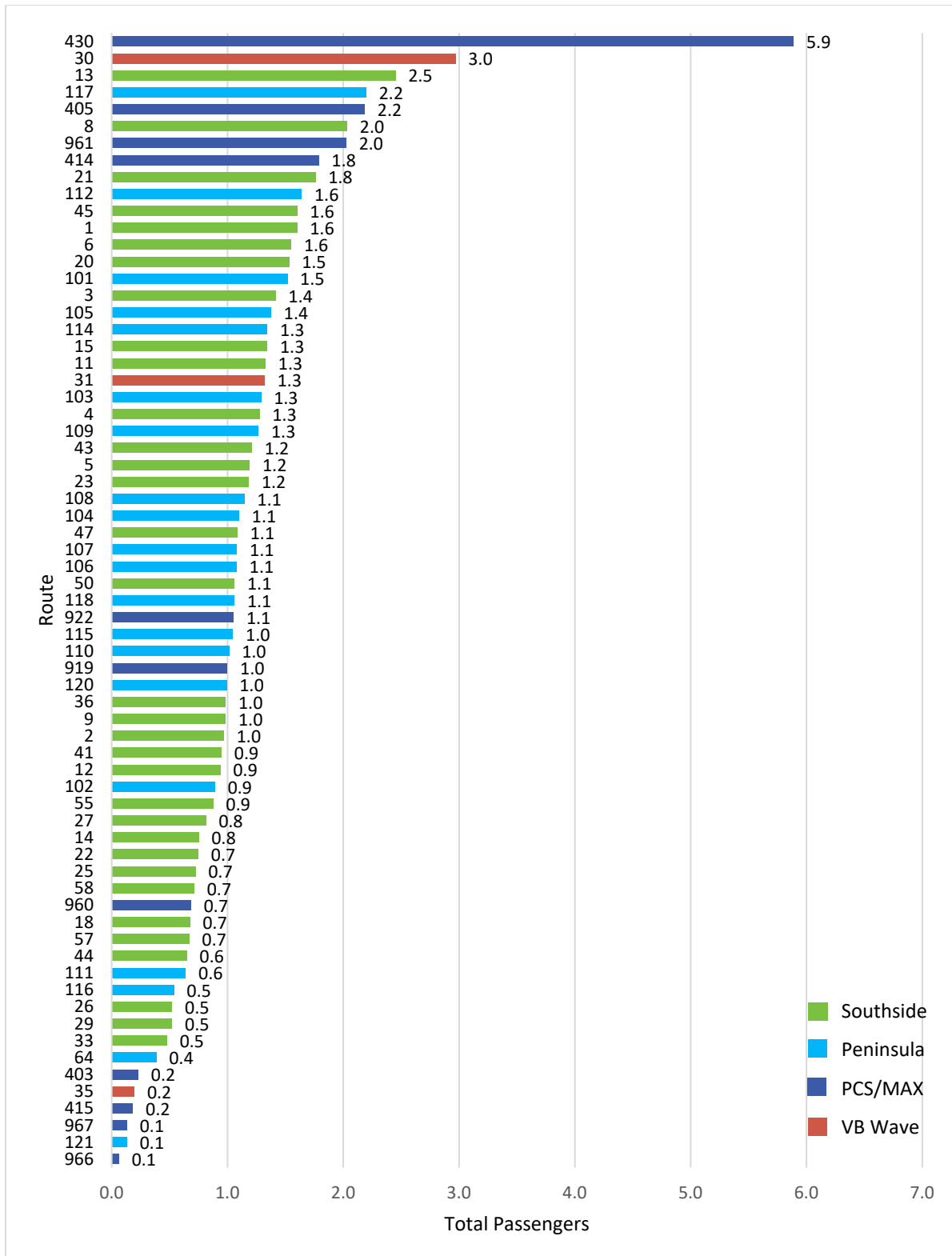
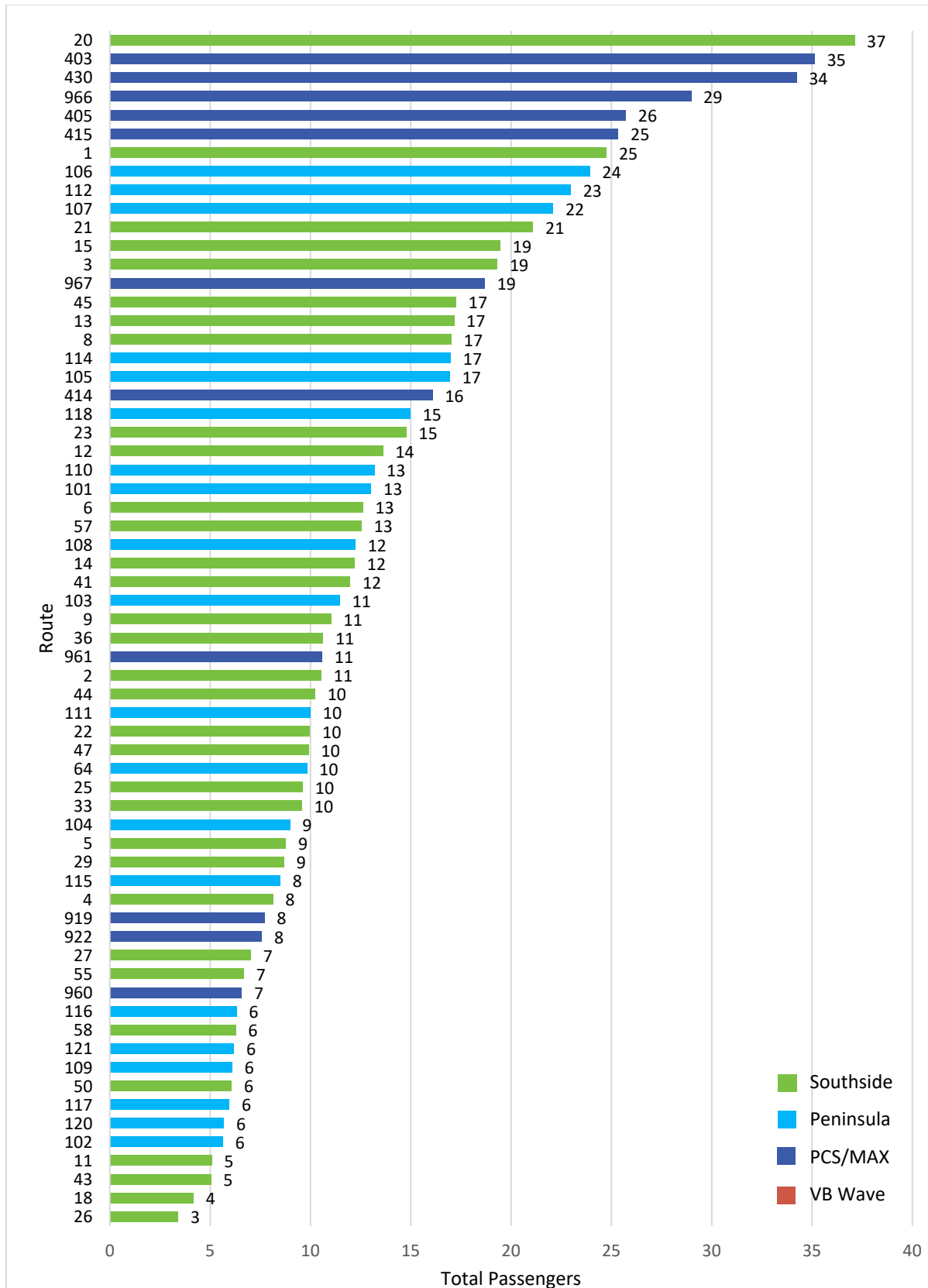


Figure 2-34: Passengers per One-Way Trip, FY 2019



Cost Efficiency

Farebox Recovery

Farebox recovery measures the percentage of operating costs covered through rider fares; the farebox recovery ratio is a comparison of the total cost to operate a route to the total fare collected by the route. **Figure 2-35** shows the farebox recovery ratio by route for FY 2019.

For FY 2019, Route 430 (Denbigh Fringe) had a farebox recovery ratio of 69.5 percent, the highest in the HRT fixed-route bus system. Other high performers were Route 403 (Buckroe Shopping Center) and Route 415 (NNTC / Denbigh), which both had a farebox recovery ratios above 50 percent. The routes with the lowest farebox recovery ratios were Route 973 (Portsmouth / Naval Station Norfolk), Route 35 (Bayfront Shuttle), and Route 974 (Chesapeake / Naval Station Norfolk), which had farebox recovery ratios of 3.1 percent, 3.8 percent, and 7.4 percent respectively.

Overall, HRT routes have a farebox recovery ratio of 17.9 percent. The farebox recovery ratio for Southside routes is slightly above average at 18.3 percent and the farebox recovery ratio for Peninsula routes is slightly below average at 17.7 percent. For VB Wave trolley and Bayfront Shuttle routes, the farebox recovery ratio is below average at 13.9 percent, and for PCS and MAX routes, it is slightly below average at 17.7 percent.

Net Cost per Passenger

The net cost per passenger is measured as the subsidy per passenger boarding. Subsidy per passenger boarding is a comparison of the total operating subsidy, or cost not covered by fare revenue, of a particular route to the total number of passenger trips operated by the route. In general, it represents the cost of a passenger trip supplemented by additional funding sources. **Figure 2-36** shows subsidy per passenger for each route for FY 2019.

For FY 2019, Route 430 (Denbigh Fringe) had a subsidy per passenger of \$0.45, the lowest in the system. Other routes with low subsidies included Route 403 (Buckroe Shopping Center), Route 415 (NNTC / Denbigh), Route 405 (NNTC / Buckroe), Route 117 (Hampton University / V.A. Hospital), and Route 112 (Downtown Newport News / Patrick Henry Mall), all of which had subsidies per passenger below \$3.00. Route 973 (Portsmouth / Naval Station Norfolk) had the highest subsidy per passenger at \$65.23, followed by Route 35 (Bayfront Shuttle) at \$29.44, and Route 974 (Chesapeake / Naval Station Norfolk) at \$29.00.

Overall, HRT routes have a subsidy per passenger of \$5.05. The subsidy per passenger for Southside and Peninsula routes have an average subsidy per passenger below the systemwide average at \$4.90 and \$4.98 respectively. VB Wave and Bayfront Shuttle and PCS/MAX routes have an average subsidy per passenger above the systemwide average at \$6.78 and \$6.88 respectively. HRT's systemwide average operating cost per passenger is \$6.27.

Figure 2-35: Farebox Recovery Ratio, FY 2019

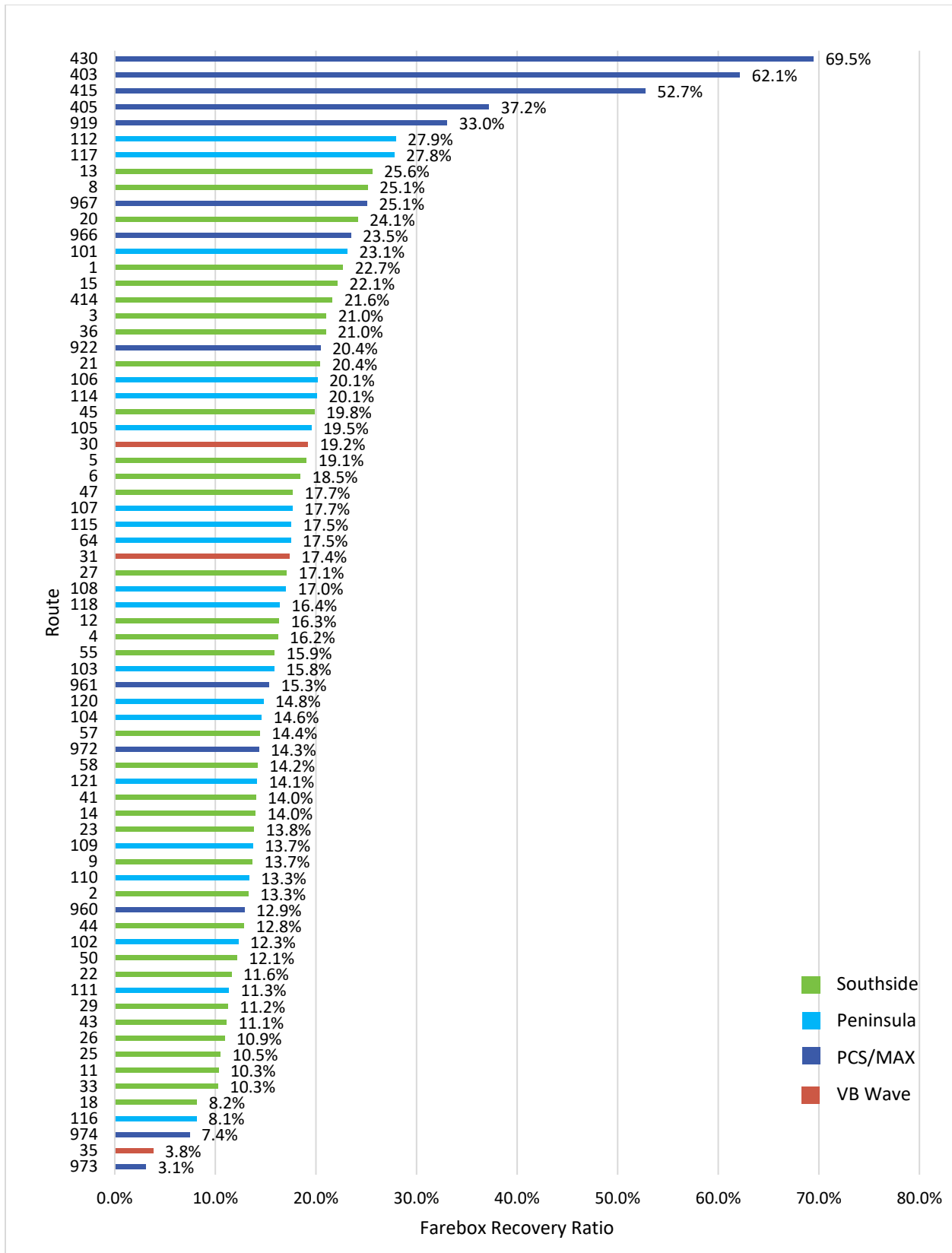
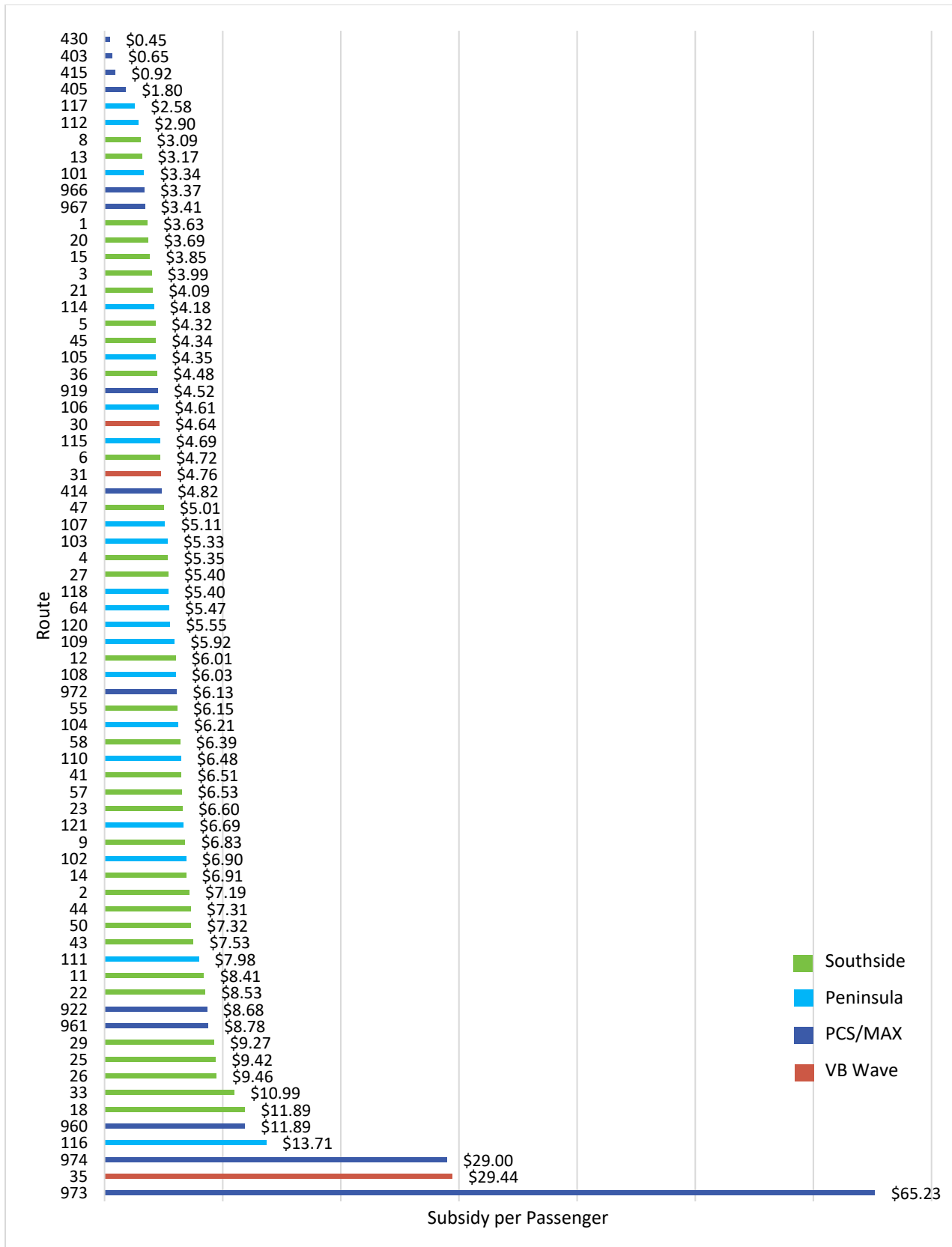


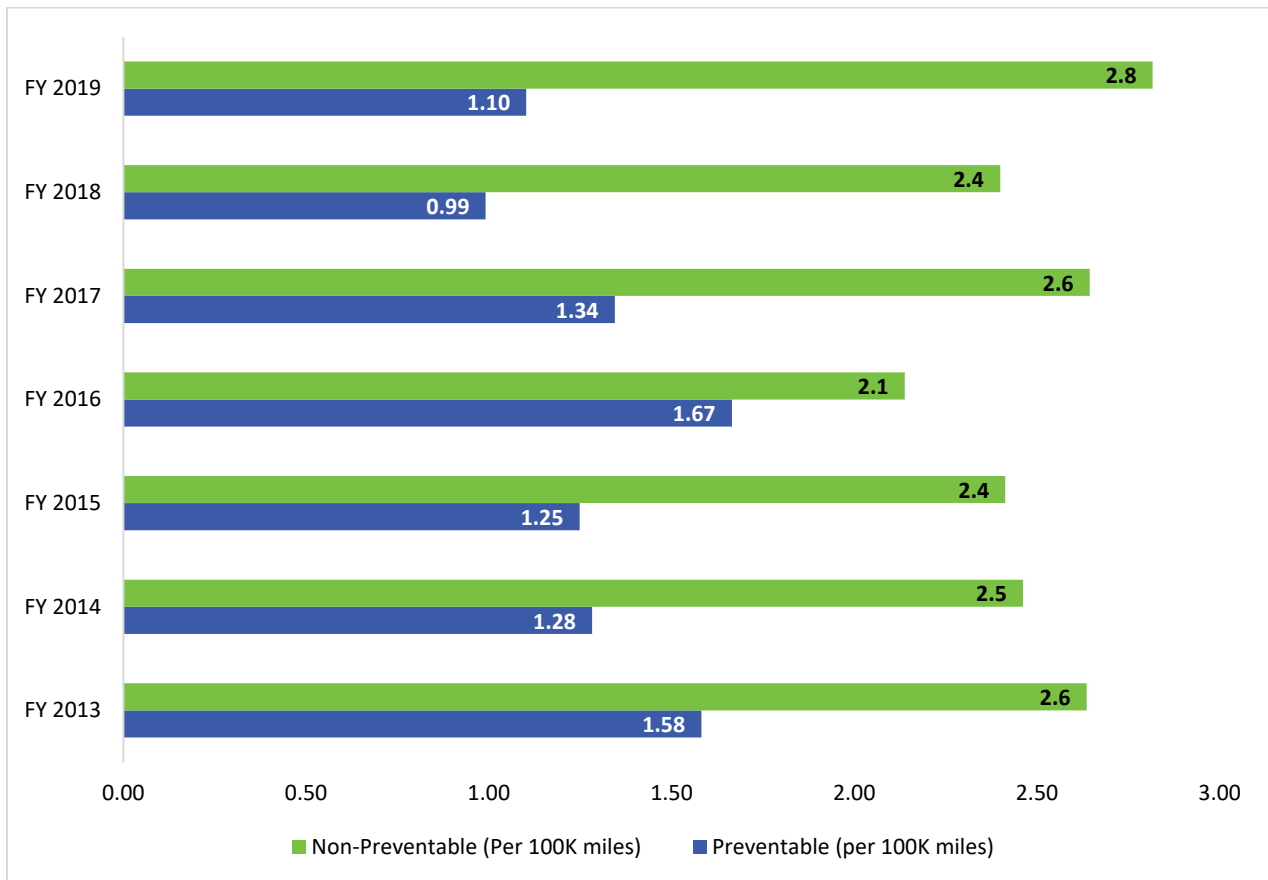
Figure 2-36: Subsidy per Passenger, FY 2019



Safety

Safety is measured as the number of preventable and non-preventable bus accidents by fiscal year. In FY 2019 there were a total of 119 total preventable accidents and 304 non-preventable accidents, a small increase compared to FY 2018, but an overall drop in preventable accidents compared to the seven-year period between FY 2013 and FY 2019. Normalizing by vehicle mileage, there were 1.10 preventable and 2.8 non-preventable accidents per 100,000 miles in FY 2019, as shown in **Figure 2-37**. When normalized by mileage, the number of preventable and non-preventable accidents has remained relatively steady across the time period.

Figure 2-37: Preventable and Non-Preventable Accidents, FY 2013-FY 2019



System Accessibility

System accessibility measures how accessible a transit system is to residents and jobs. Area within walking distance was measured as the area within half of a mile of routes with 15-minute frequencies and a quarter of a mile within all other routes. Population and jobs within the region were estimated based on the American Community Survey 2015 five-year estimates and 2015 Longitudinal Employer-Household Dynamics. HRT's existing system is accessible to about 64 percent of residents and to 58 percent of jobs in the region, as shown in **Table 2-32**.

Table 2-32: System Accessibility to Population and Jobs

Measure	Area within Walking Distance	Hampton Roads Total	Percentage Covered
Resident Access	734,665	1,140,000	64%
Access to Jobs	417,590	710,769	58%

Trend Analysis

This trend analysis reports on and assesses HRT’s bus and demand response transit services during the period spanning FY 2012 through FY 2017. Such an evaluation allows for an assessment of transit services over time, and sheds light on how development and changing demographics have impacted transit performance and system growth. The following section reports on the following characteristics for each of these services:

- **Service area characteristics:**
 - Square miles
 - Population
 - Population density
- **Operational metrics:**
 - Vehicles operated in maximum service
 - Vehicle revenue miles
 - Vehicle revenue hours
- **Ridership metrics:**
 - Total ridership
 - Passengers per revenue mile
 - Passengers per revenue hour
- **Revenue and cost metrics:**
 - Total operating expenses
 - Operating expenses per passenger trip
- **Service efficiency:**
 - Fare revenue
 - Farebox recovery ratio
 - Subsidy per passenger

Service Area Characteristics

A review of service area characteristics allows an agency to assess how the scale of its operations and constituency size have evolved along with the service provided.

The square mileage of HRT’s service area decreased by approximately 17 percent from FY 2012 to FY 2017. In January 2012, the City of Suffolk, Virginia withdrew from the Transportation District Commission of Hampton Roads, thereby reducing HRT’s service area size. Although some HRT routes currently operate in the City of Suffolk, most bus service in this city is now provided by Suffolk Transit.

In addition, HRT’s service area population decreased by 21 percent over this period. According to the U.S. Census Five-Year American Community Survey, from 2012 through 2015, the populations of the Virginia Beach-Norfolk-Newport News, VA-NC Metropolitan Statistical Area and Virginia Beach Urban Area each increased over this timeframe. Therefore, HRT’s reduction in service area population can likely also be at least in part attributed to the loss of service in the City of Suffolk.

Lastly, the population density of HRT’s service area dropped by five percent over the five-year period, from 2,795 persons per square mile to 2,667 persons per square mile. **Table 2-33** summarizes how the characteristics of HRT’s service area have changed over the last five fiscal years.

Table 2-33: Service Area Characteristics

Fiscal Year	Square Miles	Population	Population Density
2012	515	1,439,666	2,795
2013	515	1,439,666	2,795
2014	421	1,134,343	2,694
2015	431	1,143,932	2,654
2016	431	1,143,932	2,654
2017	428	1,141,651	2,667
Percent Change	-17%	-21%	-5%

Operational Statistics

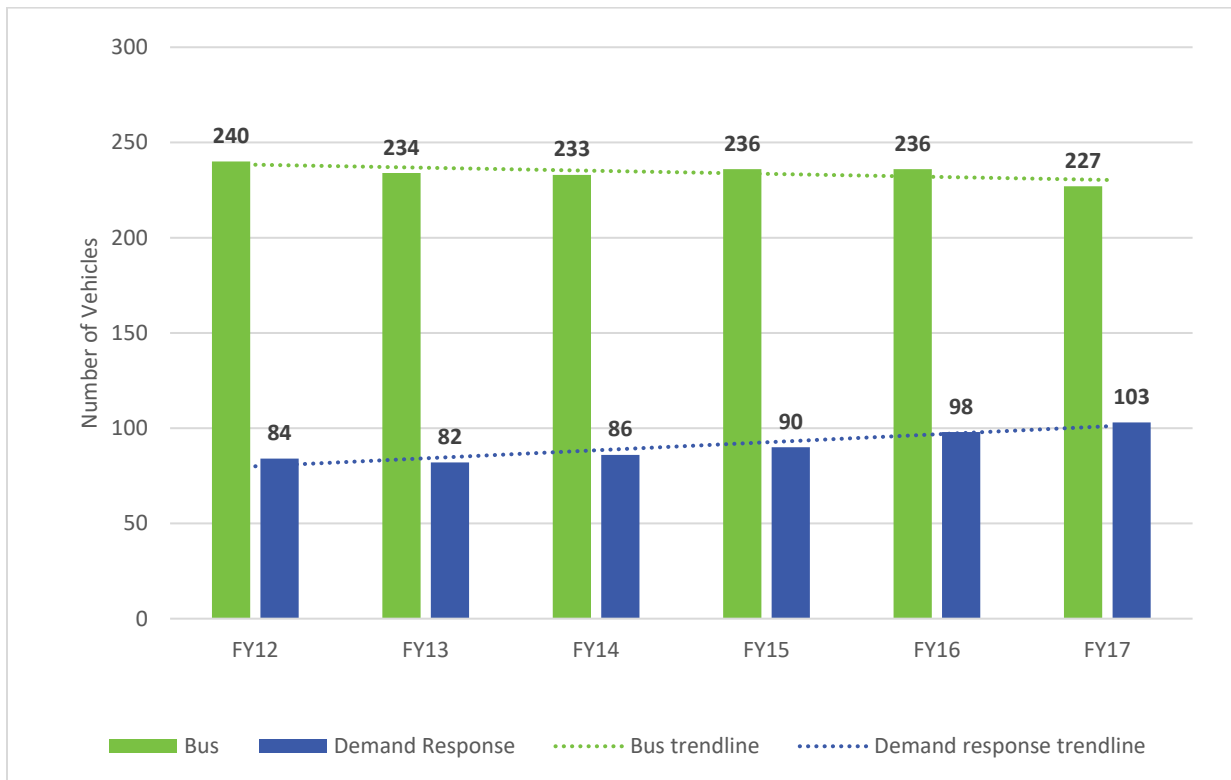
A review of operational statistics describes the level of service HRT has provided over the six years from FY 2012 to FY 2017. The following section analyzes the vehicles operated in maximum service, revenue hour and revenue mile trends within the HRT system.

Vehicles Operated in Maximum Service

Between FY 2012 and FY 2017, the number of fixed-route vehicles in maximum service remained relatively constant, dropping overall by just five percent (from 240 to 227).

In contrast, HRT increased its paratransit fleet operating in maximum service from 84 to 103 vehicles, a 23 percent increase, greatly improving its ability to serve the region’s elderly and disabled populations during peak periods. During FY 2013 and FY 2014, as the demand for paratransit grew, the costs of operating paratransit grew slower than inflation. In FY 2014, HRT capitalized on this trend by replacing its entire paratransit fleet. **Figure 2-38** details the number of vehicles operated in maximum service over the period from FY 2012 through FY 2017.

Figure 2-38: Vehicles Operated in Maximum Service



Vehicle Revenue Miles

Fixed-Route

A vehicle is considered in revenue service when operating on a route and serving passengers, and in non-revenue service when traveling to or from a garage without passengers. Fixed-route revenue miles dropped from FY 2012 to FY 2013, but rose steadily thereafter, resulting in a two percent overall increase from FY 2012 to FY 2017.

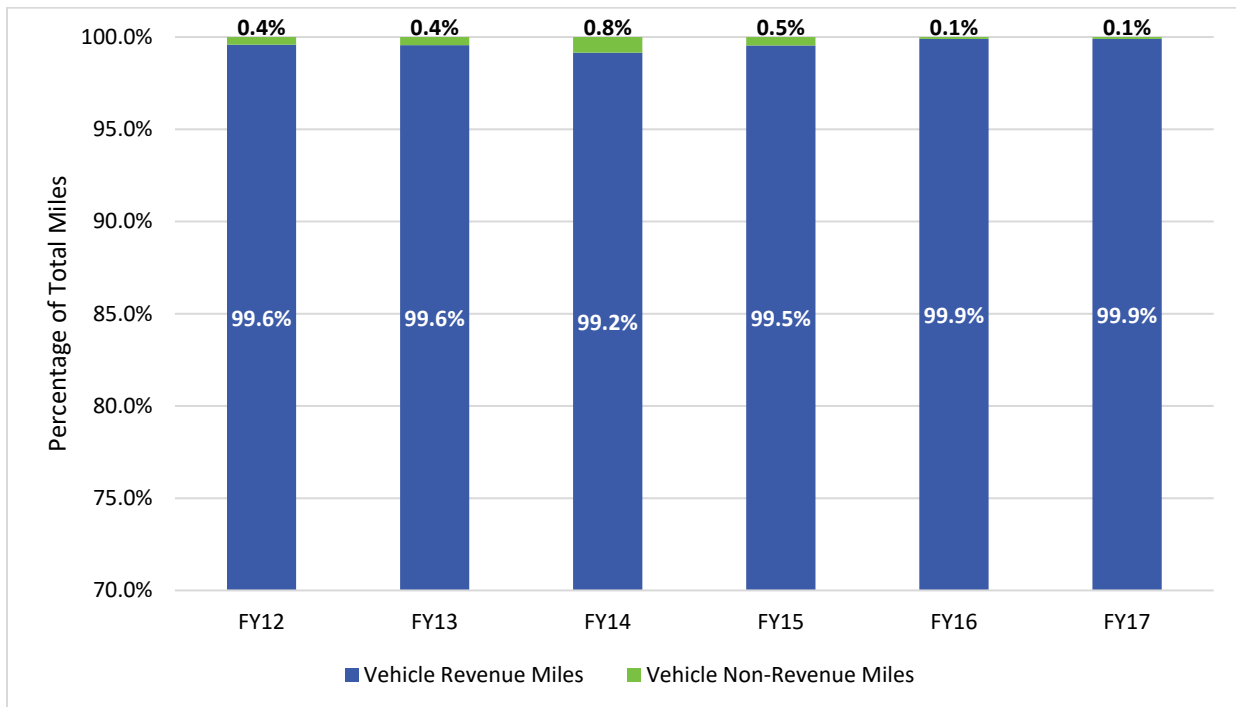
Table 2-34 summarizes the total revenue versus non-revenue miles on HRT fixed-routes during the six-year period.

Table 2-34: Fixed Route: Revenue / Non-Revenue Miles³⁰

Fiscal Year	Revenue Miles	Non-Revenue Miles
2012	10,466,059	43,858
2013	9,932,136	43,593
2014	9,794,751	83,543
2015	10,218,494	46,630
2016	10,657,297	11,089
2017	10,624,169	11,051
Percent Change	2%	-75%

The percentage of fixed-route vehicle revenue versus that of non-revenue miles, shown in **Figure 2-39**, reveals that although non-revenue miles fluctuated during the five-year period, HRT's percentage of vehicle revenue miles never fell below 99 percent and barely deviated from 99.6 percent, the value reported in FY 2016.

Figure 2-39: Fixed-Route: Percentage of Vehicle Revenue and Non-Revenue Miles



³⁰ Non-revenue miles increased by 92 percent in FY 2014, a direct result of a new scheduling process within Trapeze.

Demand Response

Along with the overall size of its fleet and the demand for paratransit, HRT drastically increased demand response service from FY 2012 to FY 2017; revenue miles surged by a total of 69 percent. As revenue service grew, so did non-revenue miles, by a total of 12 percent.

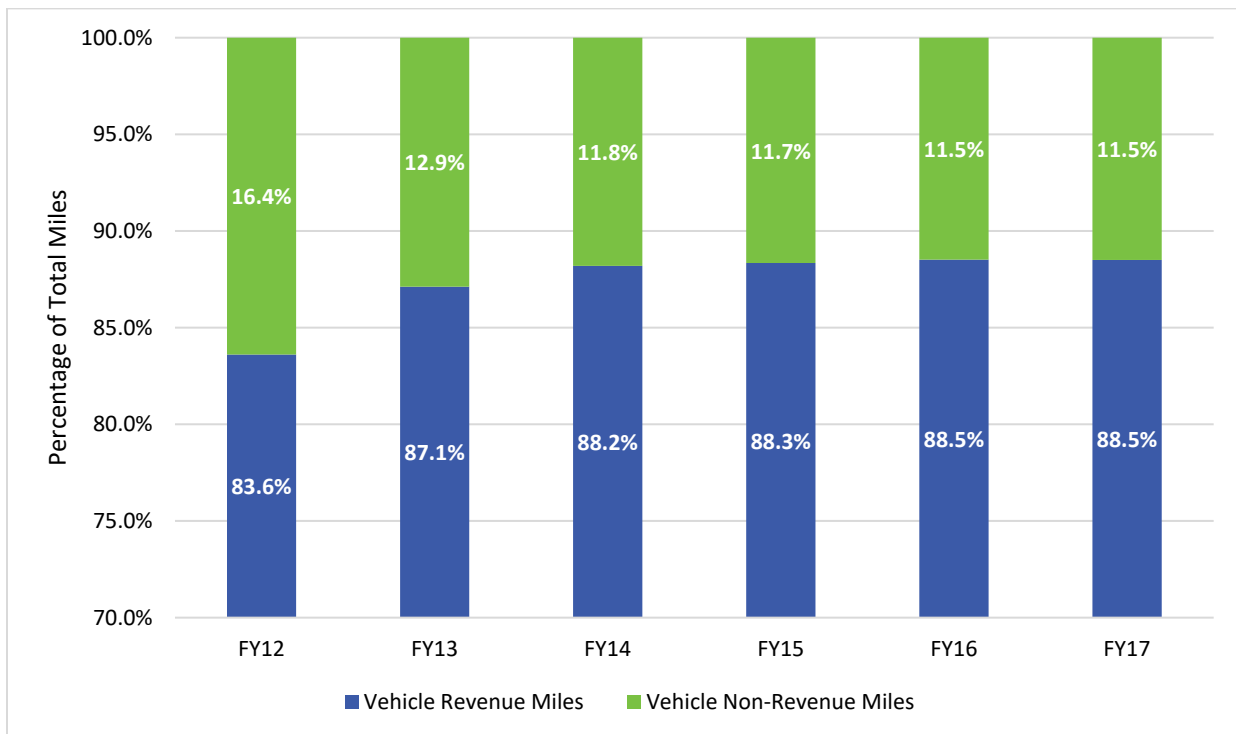
Table 2-35 summarizes the total revenue versus non-revenue miles in HRT demand response vehicles over the five-year period.

Table 2-35: Demand Response: Revenue / Non-Revenue Miles

Fiscal Year	Revenue Miles	Non-Revenue Miles
2012	2,251,183	441,368
2013	3,054,073	451,408
2014	3,259,377	436,238
2015	3,370,172	444,553
2016	3,788,225	491,308
2017	3,804,596	494,151
Percent Change	69%	12%

Figure 2-40 shows the percentage of demand response revenue versus non-revenue miles over the six-year period. While paratransit vehicles spent just 83.6 percent of their mileage in revenue service in FY 2012, by FY 2017, this figure had reached 88.5 percent.

Figure 2-40: Demand Response: Percentage of Vehicle Revenue and Non-Revenue Miles



Vehicle Revenue Hours

Fixed-Route

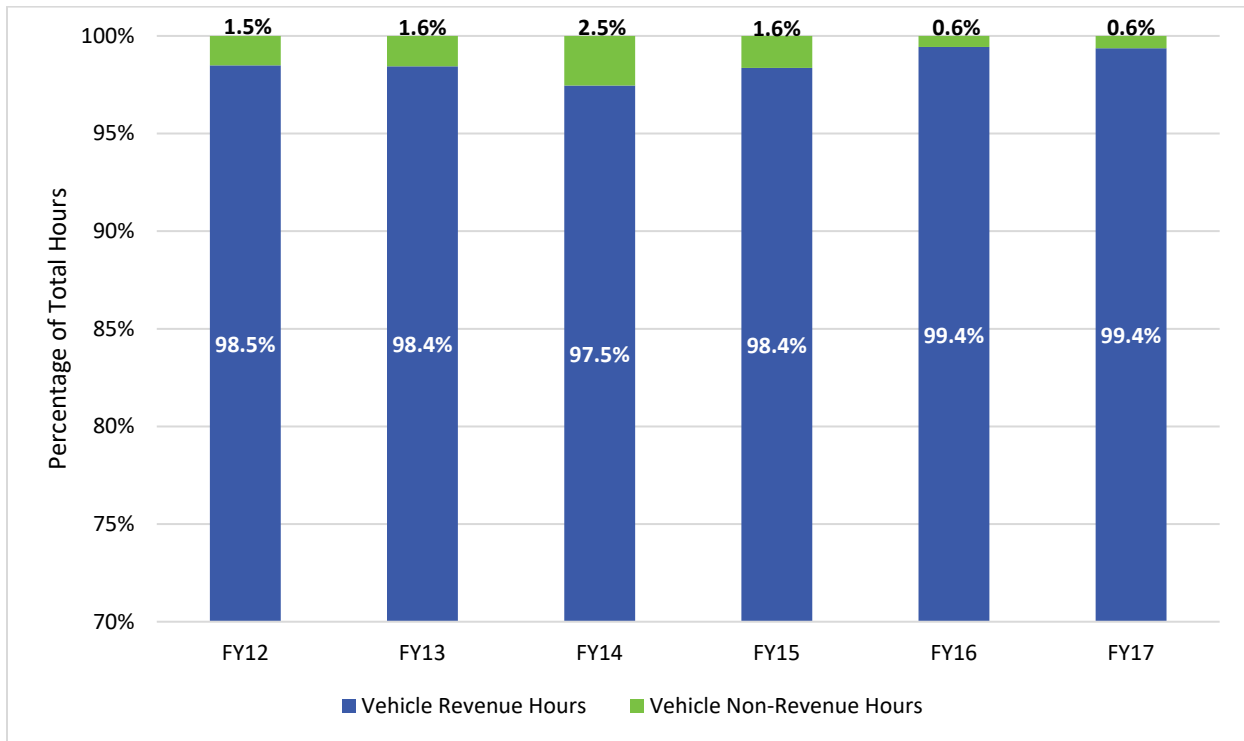
A complement to vehicle revenue miles, an analysis of revenue hours reveals—in terms of total time rather than distance—how efficient an agency is with its vehicles as it aims to spend as much time in service as possible. Over the six-year period, while HRT increased its revenue hours by five percent, non-revenue hours dropped by 57 percent. **Table 2-36** shows revenue versus non-revenue hours on HRT fixed-route services from FY 2012 to FY 2017.

Table 2-36: Fixed Route: Revenue / Non-Revenue Hours

Fiscal Year	Revenue Hours	Non-Revenue Hours
2012	788,917	12,092
2013	781,983	12,386
2014	778,904	20,316
2015	786,442	13,087
2016	823,606	4,710
2017	827,021	5,260
Percent Change	5%	-57%

Figure 2-41 shows the percentage of vehicle revenue versus non-revenue hours on buses. Although the percentage of revenue hours dropped slightly from FY 2012 to FY 2014, this percentage would rise once more until reaching a peak in FY 2017. Over the six-year period, HRT has used its vehicles more efficiently.

Figure 2-41: Fixed Route Percentage of Vehicle Revenue and Non-Revenue Hours



Demand Response

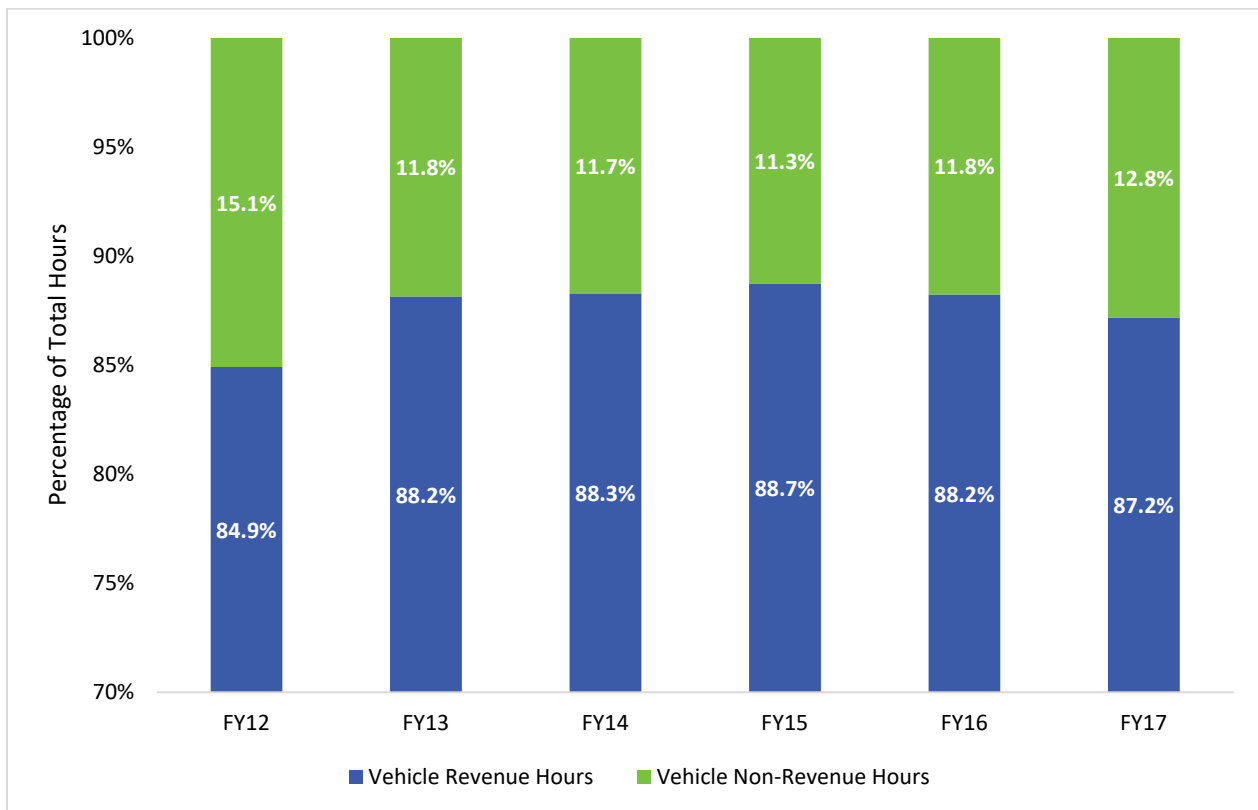
As the demand response service has grown, both revenue and non-revenue demand response hours have increased, respectively by 60 and 32 percent. **Table 2-37** summarizes revenue and non-revenue hours for paratransit service over the six-year period.

Table 2-37: Demand Response: Revenue / Non-Revenue Hours

Fiscal Year	Revenue Hours	Non-Revenue Hours
2012	150,171	26,672
2013	195,576	26,286
2014	201,726	26,761
2015	213,638	27,095
2016	237,016	31,593
2017	239,679	35,282
Percent Change	60%	32%

Despite dipping slightly from FY 2013 to FY 2014 and from FY 2015 to FY 2016, the percentage of demand response revenue hours has risen overall. Thus, as service has grown, HRT has increased the efficiency of its paratransit vehicle operation. **Figure 2-42** shows the percentage of revenue versus non-revenue hours on demand response vehicles. Notably, compared to the previous years, where the proportion of revenue to non-revenue hours remained relatively constant, 2017 saw an increase in the percentage of non-revenue hours as compared to total hours. This indicates that in 2017, demand response service was less efficient than in years past.

Figure 2-42: Demand Response Percentage of Vehicle Revenue and Non-Revenue Hours



Ridership

Total Ridership

An assessment of ridership reveals how the usage of HRT services has changed over the six-year analysis period. This section reviews unlinked passenger trips, or the total number of boardings on vehicles, regardless of how many transfers were made during any single trip.

While bus ridership rose slightly from FY 2012 to FY 2013, the number of unlinked trips dropped each year thereafter, ultimately resulting in an overall 21 percent decrease over the six-year period.

Table 2-38 shows annual total ridership on the bus and demand response services from FY 2012 through FY 2017. Therefore, despite a slight increase in revenue miles and hours, HRT has served fewer bus passengers now than it did six years ago. There are several potential reasons for this drop:

- As mentioned, HRT’s service area square mileage dropped sharply from FY 2013 to FY 2014. Although the population within the service area fluctuated in the ensuing years, it is possible that the loss of the Suffolk service area signified a loss of areas using transit, which in turn led to a gradual drop in ridership.
- In FY 2013, HRT updated the terms of its GoPass365 program, which offers businesses and educational institutions the opportunity to buy transit passes and supplement employees’ and students’ fares. Previously, the program consisted of one flat fee for institutions, which were subsequently passed on to riders in the form of unlimited access. This structure underpriced passes and resulted in lost revenue. Through the current program, institutions may select one of two options: a per pass flat rate based on tier pricing or a per swipe monthly based on accumulative swipes. Institutions now buy passes based on the level of interest; passes are priced higher, and institutions must support a minimum participation threshold to qualify. In addition to fare increases and the fact that several participating educational institutions now pass half of the transit costs on to students, these program restructuring factors contributed to a decline in overall ridership.
- A lengthy federal government shutdown in FY 2013 and a federal sequestration process in FY 2014 temporarily prevented many riders from reporting to work.
- Weather-related events in FY 2014 and FY 2015 temporarily closed the entire HRT system.
- HRT instituted a fare increase in FY 2015, which was complemented with lower gas prices.
- Service changes to routes over the five-year period have eliminated ridership from previously served areas.
- Gas prices decreased by approximately 38 percent between FY 2012 and FY 2016.

In contrast, demand response ridership has increased steadily each year, and by 25 percent overall. During the six-year period, as the costs for paratransit grew slower than those of inflation, HRT completed much work to improve its demand response service. In FY 2014, in addition to replacing its entire paratransit fleet, HRT participated in a symposium to inform a reengineering of the program, completed a peer review of demand response contract specifications, and developed a new Request for Proposals for the program. In addition, the demand for paratransit was perhaps also fueled by a growing senior population. According to the Five-Year American Community Survey, the percentage of residents aged 65 and older in HRT member cities increased from 10.8 percent in 2012 to 11.6 percent in 2015.

Table 2-38: Annual Total Ridership

Fiscal Year	Fixed-Route Bus	Demand Response	Total
2012	16,166,475	293,012	16,459,487
2013	16,217,920	304,004	16,521,924
2014	15,026,924	311,789	15,338,713
2015	14,218,168	324,510	14,542,678
2016	13,241,512	351,654	13,593,166
2017	12,586,719	365,310	12,952,029
Percent Change	-22%	25%	-21%

Passengers per Revenue Mile

Often but not always linked with trends in total ridership, this metric measures the productivity of HRT in transporting its passengers.

While HRT’s passengers per revenue mile on bus service increased initially, as was the case with total ridership, this value decreased steadily through FY 2017, ultimately by 20 percent overall. This drop was likely related to the

aforementioned reasons for decreased annual ridership, and perhaps also to the combined effects of minor route re-routings and schedule changes over the six-year period.

The number of demand response passengers per revenue mile remained steady at 0.1 throughout the analysis period, a figure well below this value for bus service in any analysis year. Although this reported value may appear low, paratransit vehicles are typically significantly smaller than most local or express buses and as a result often transport fewer passengers per mile covered. **Table 2-39** shows passengers per revenue mile for both services over the analysis period.

Table 2-39: Passengers per Revenue Mile

Fiscal Year	Fixed-Route	Demand Response
2012	1.5	0.1
2013	1.6	0.1
2014	1.5	0.1
2015	1.4	0.1
2016	1.2	0.1
2017	1.2	0.1
Percent Change	-20%	0%

Passengers per Revenue Hour

Passengers per revenue hour is another metric used to evaluate how productively HRT vehicles spend their time (rather than distance) in service.

As was the case with other ridership metrics covered in this section, passengers per bus revenue hour increased slightly from FY 2012 to FY 2013 (from 20.5 to 20.7) and decreased thereafter (by 26 percent overall). Demand response passengers per revenue hour also decreased over the six-year period, ultimately by 25 percent overall (from 2.0 to 1.5). **Table 2-40** summarizes passengers per revenue hour by service.

Table 2-40: Passengers per Revenue Hour

Fiscal Year	Fixed-Route	Demand Response
2012	20.5	2.0
2013	20.7	1.6
2014	19.3	1.6
2015	18.1	1.5
2016	16.1	1.5
2017	15.2	1.5
Percent Change	-26%	-25%

Revenue and Cost

Operating Expenses

An analysis of operating expenses over time can elicit an understanding of how much money HRT expends to operate its services each fiscal year. **Table 2-41** relays this information for both bus and demand response services.

While total bus operating expenses decreased from FY 2012 to FY 2013, expenses increased each year thereafter, and overall by 18 percent. However, the percentage by which operating expenses increased also decreased over time, with a slight increase from FY 2016 to FY 2017. From FY 2013 to FY 2014, expenses increased by 12 percent (from \$62.8 million to \$70.3 million); from FY 2014 to FY 2015, expenses increased by eight percent (from \$70.3 million to \$75.8 million); from FY 2015 to FY 2016, expenses only increased by 0.02 percent (from \$75.84 million to \$75.85 million), and from FY 2016 to FY 2017 expenses increased by two percent (\$75.85 million to \$76.05 million). In FY 2015, HRT completed a great deal of work to reduce operating expenses, limiting bus operator unscheduled overtime and absenteeism, reducing paid sick leave for employees, and renegotiating agency insurance premiums.

Demand response total operating expenses fluctuated markedly over the six-year period, initially increasing by 23 percent from FY 2012 to FY 2013 (from \$8.8 million to \$10.8 million), only to fall slightly over the period spanning FY 2013 to FY 2015 (from \$10.8 million to \$9.9 million). Operating expenses rose once again in FY 2016, but only by 0.47 percent (from \$9.9 million to \$10 million). In FY 2017, operating expenses fell compared to FY 2016 by one percent.

Table 2-41: Total Operating Expenses

Fiscal Year	Fixed-Route	Demand Response
2012	\$64,594,584	\$8,812,419
2013	\$62,865,214	\$10,819,386
2014	\$70,334,896	\$10,225,660
2015	\$75,843,693	\$9,986,092
2016	\$75,859,835	\$10,032,847
2017	\$76,045,680	\$9,932,249
Percent Change	18%	13%

Operating Expenses per Passenger Trip

Operating expenses per passenger trip can provide insight into how efficiently an agency is utilizing its operating resources. This analysis can also shed light on whether an agency's cost increases or decreases are correlated with ridership trends.

As total bus operating expenses decreased, operating expenses per trip too dropped from \$4.00 per trip in FY 2012 to \$3.88 per trip in FY 2013. Expenses per trip then steadily rose through FY 2017, increasing overall by 51 percent during the analysis period, this is a direct result of the decreasing ridership.

Demand response operating expenses per trip increased from \$30.08 per trip in FY 2012 to \$35.59 per trip in FY 2013, following the upward trend of overall operating expenses. However, between FY 2013 and FY 2017, expenses per passenger trip decreased. In all, operating expenses per passenger trip decreased to \$27.19 in FY 2017, indicating a 10 percent overall decrease. Thus, as expenses for paratransit climbed during the analysis period, the service was carrying significantly more passengers. This was not the case for bus service.

Figure 2-43 shows operating expenses per passenger trip for bus and demand response from FY 2012 through FY 2017.

Figure 2-43: Operating Expenses per Passenger Trip



Service Efficiency

Cost Recovery Ratio

While all transit agencies seek to earn as much fare revenue as possible, the cost recovery ratio statistic, measures the percentage of operating expenses recovered by fare revenue, determining a service’s cost effectiveness.

Fixed-route fare revenue dropped by ten percent from FY 2012 to FY 2013 (from \$14.7 million to \$13.2 million), then rose by five percent from FY 2013 to FY 2014 (from \$13.2 million to \$13.9 million), only to rise again the following year and remain relatively level between FY 2015 and FY 2016. Between FY 2016 and FY 2017 fare revenue dropped eight percent (from \$14 million to \$12.9 million).

During the six-year period, fixed-route cost recovery dropped steadily six percentage points overall (23 percent in FY 2012 to 17 percent in FY 2017). The rate of the cost recovery ratio decrease was largely correlated with the rate of increase in total operating expenses and decrease in ridership, appearing to level out from FY 2015 to FY 2016, a period during which operating expenses decreased relatively little. **Figure 2-44** shows fare revenue and the cost recovery ratio for fixed-route service from FY 2012 through FY 2016.

Demand response fare revenue increased steadily—by 85 percent overall—from FY 2012 to FY 2017. Moreover, although total operating expenses peaked and valleyed during this timeframe, the farebox recovery ratio increased by a small amount each year, reaching 11 percent in FY 2017. **Figure 2-45** details fare revenue and the cost recovery ratio for demand response service from FY 2012 through FY 2017.

Figure 2-44: Fixed-Route Fare Revenue / Cost-Recovery Ratio

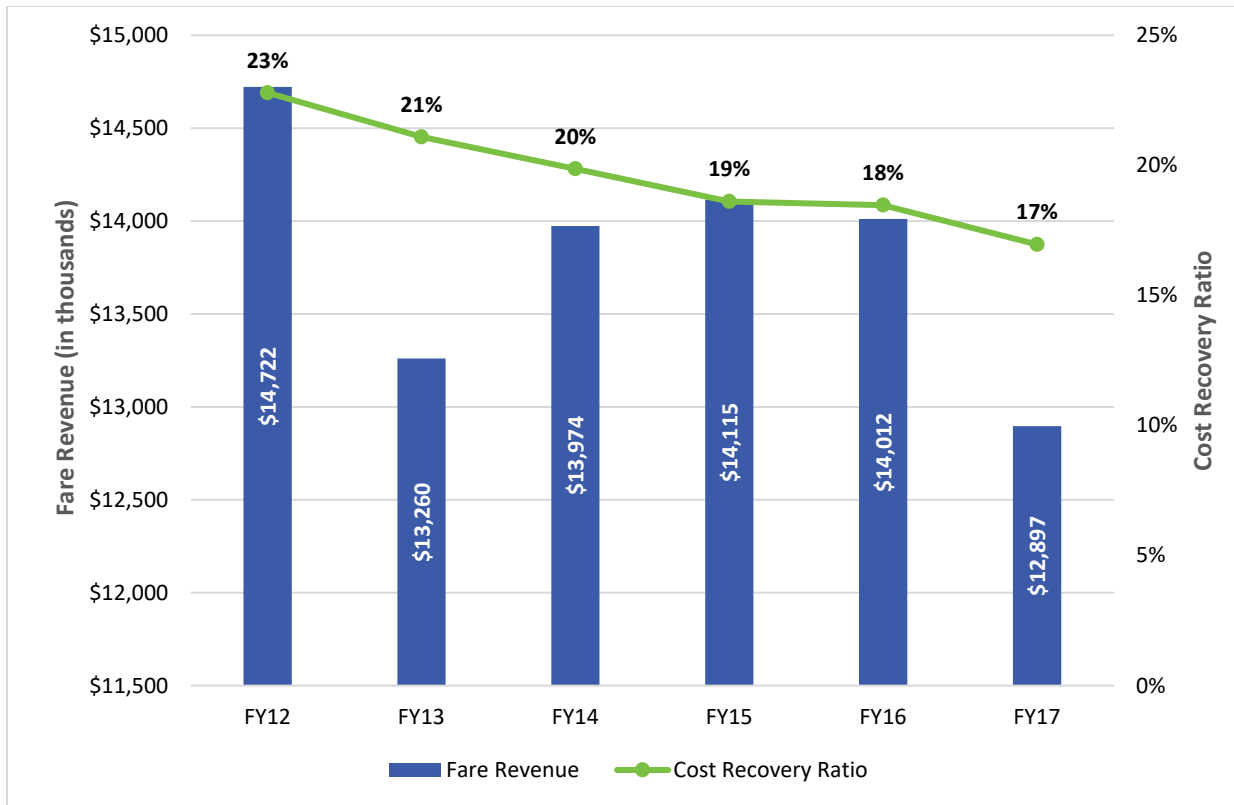
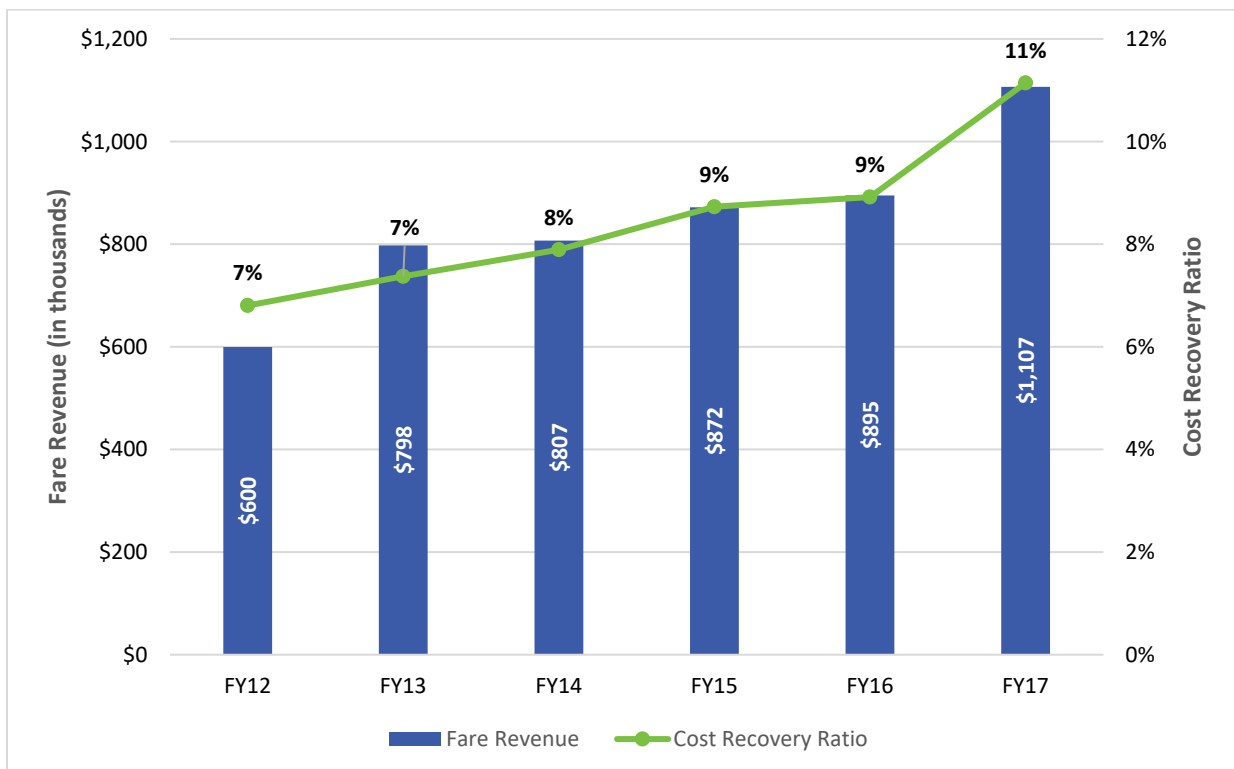


Figure 2-45: Demand Response Fare Revenue / Cost Recovery Ratio



Subsidy per Passenger

A subsidy is the cost incurred by the agency once fare revenue is deducted from the operating expenses. Assessing the average subsidy per passenger is an indication of the cost effectiveness of the service in relation to the local, state, federal or dedicated funding resources being devoted per passenger.

The subsidy per passenger for fixed-route service followed the trend of total operating expenses during this time period, decreasing from FY 2012 to FY 2013 and increasing each year thereafter. Overall, the fixed-route subsidy per passenger increased by 63 percent.

The demand response subsidy per passenger followed a reverse trend, increasing slightly from the first fiscal year to the next and decreasing each year thereafter (by 14 percent overall). In this case, the dollar amount required to subsidize each passenger decreased alongside increases in both fare revenue and the cost recovery ratio.

Table 2-42 shows the subsidy per passenger for bus and demand response services from FY 2012 through FY 2017.

Table 2-42: Subsidy per Passenger

Fiscal Year	Fixed-Route	Demand Response
2012	\$3.08	\$28.03
2013	\$3.06	\$32.97
2014	\$3.75	\$30.21
2015	\$4.34	\$28.09
2016	\$4.67	\$25.99
2017	\$5.02	\$24.16
Percent Change	63%	-14%

Summary and Key Findings

Between FY 2012 and FY 2017, HRT's service area decreased in terms of both square miles and population and has become slightly less dense. From an operational standpoint, HRT operates five percent fewer bus vehicles in maximum service, and 26 percent more demand response vehicles. Although the percentage of hours devoted to paratransit revenue service has increased slightly, the percentages of revenue miles and revenue hours of only demand response has changed significantly.

HRT's total fixed-route ridership has decreased, as have the values for measures regarding how efficiently the agency transports its passengers. While total demand response ridership rose by 25 percent over the six-year period, passengers per revenue hour decreased. Decreases in ridership are likely attributable to several factors, including a shrinking service area, service changes, changes to the GoPass365 program, federal government shutdowns, lower gas prices, extreme weather, and fare increases.

HRT's total operating expenses increased for both modes by similar percentages. However, while expenses per passenger trip rose by 51 percent for fixed-route service, this figure dropped by 10 percent for demand response service, indicating that the latter service is more efficient to operate. Due to several measures, the rate of increase of HRT operating expenses began to plateau toward the end of the six-year period.

Finally, regarding service efficiency, while fixed-route fare revenue dropped slightly, demand response fare revenue increased, in conjunction with increased ridership, by 85 percent. The cost recovery ratios for fixed-route and demand response service respectively dropped and rose slightly. While the operating subsidy for bus service went up by 63 percent, the subsidy for demand response went down by 14 percent. **Table 2-43** summarizes the results of the trend analysis by category, listing the percent change.

Table 2-43: FY 2012 to FY 2017 Trend Analysis Summary

Metric	Percent Change	
	Fixed-Route	Demand Response
Service Area		
Square Miles	-17%	
Population	-21%	
Population Density	-5%	
Operational		
Vehicles Operated in Maximum Service	-5%	23%
Revenue Miles	2%	69%
Revenue Hours	5%	60%
Ridership		
Total Ridership	-22%	25%
Passengers per Revenue Mile	-20%	0%
Passengers per Revenue Hour	-26%	-25%
Revenue and Cost		
Total Operating Expenses	18%	13%
Operating Expenses per Passenger Trip	51%	-10%
Service Efficiency		
Fare Revenue	-12%	85%
Cost Recovery Ratio	-6%	4%
Subsidy per Passenger	63%	-14%

2.3.2 Performance-Based Opportunities for Improvement

While previous sections provide analysis of a range of route-level and system-level metrics, the following section assesses each HRT fixed-route service against the passengers per revenue hour, passengers per one-way trip, farebox recovery and subsidy per passenger boarding key performance indicators (KPI) detailed in **Section 1.2.4: Performance Standards**.³¹ These KPIs assess the performance of routes against the routes within their service classification in order to determine which are underperforming.

Key Performance Indicator: Passengers per Revenue Hour

The passengers per revenue hour metric is key to assessing the productivity of a route. Only local services (Southside, Peninsula, and VB Wave and Bayfront Shuttle Services) were evaluated using this KPI, as passengers per revenue hour is not appropriate for Limited/Express routes (Peninsula Commuters Services, Metro Area Express). For this KPI, any Southside or Peninsula route that fell short of 7.6 passengers per revenue hour and any VB Wave and Bayfront Shuttle Services route that fell short of 5.8 passengers per revenue hour did not meet the benchmark.³² Routes that were deficient in this category are:

- **Southside Services:** Routes 18 and 33
- **Peninsula Services:** Routes 116 and 121
- **Bayfront Shuttle:** Route 35

Key Performance Indicator: Passengers per One-way Trip

The passengers per one-way trip metric is key to assessing the productivity of an express or limited service route. Only the PCS and MAX routes were evaluated using this KPI, as passengers per one-way trip is not an appropriate

³¹ The service types identified in Chapter 1 – Regional Backbone, Local, and Coverage – are used for defining route recommendations as shown in Chapter 3. For existing HRT routes, all routes that are not Limited/Express are grouped together as a combination of these three service types. When the recommendations are implemented, each new non-Express/Limited route will be assigned one of these three classifications.

³² The benchmark is determined by 50% of the service classification average on weekdays and weekends.

measure for local services. For this KPI, any route that fell short of 20 passengers per one-way trip did not meet the benchmark.³³ Routes that were deficient in this category are:

- **PCS:** Route 414
- **MAX:** Routes 919, 922, 960, 961, 967, 973, and 974

Key Performance Indicator: Farebox Recovery

The farebox recovery ratio is used to assess if a route is operating cost effectively. For all service classifications, the benchmark is 50 percent of the service classification average on weekdays and weekends. For this KPI, any Southside route that fell short of a 9.1 percent farebox recovery ratio, any Peninsula route that fell short of an 8.9 percent farebox recovery ratio, and any VB Wave and Bayfront Shuttle Services route that fell short of a 6.9 percent farebox recovery ratio did not meet the benchmark. Routes that were deficient in this category are:

- **Southside:** Route 18
- **Peninsula Services:** Routes 116
- **Bayfront Shuttle:** Route 35

For PCS and MAX routes, any route that fell short of an 8.8 percent farebox recovery ratio did not meet the benchmark. Routes that were deficient in this category are:

- **MAX:** Routes 973 and 974

Key Performance Indicator: Subsidy per Passenger Boarding

The subsidy per passenger measures how much additional funding outside of the fare revenue an agency has to pay to cover the cost of an individual trip. For all service classifications, the benchmark is twice the service classification average on weekdays and weekends. For this KPI, any Southside route that exceeded a subsidy of \$9.79 per passenger, any Peninsula route that exceeded a subsidy of \$9.95 per passenger, and any VB Wave and Bayfront Shuttle Services route that exceeded a subsidy of \$13.55 per passenger did not meet the benchmark. Routes that were deficient in this category are:

- **Southside:** Routes 18 and 33
- **Peninsula Services:** Routes 116
- **Bayfront Shuttle:** Route 35

For PCS and MAX routes, any route that exceeded \$13.76 subsidy per passenger boarding did not meet the benchmark. These are:

- **MAX:** Routes 973 and 974

³³ Minimum passengers boardings per one-way trip is 20 on weekdays and 15 on weekends.

2.4 Operating and Network Efficiency Evaluation

2.4.1 Efficiency Evaluation

On-Time Performance

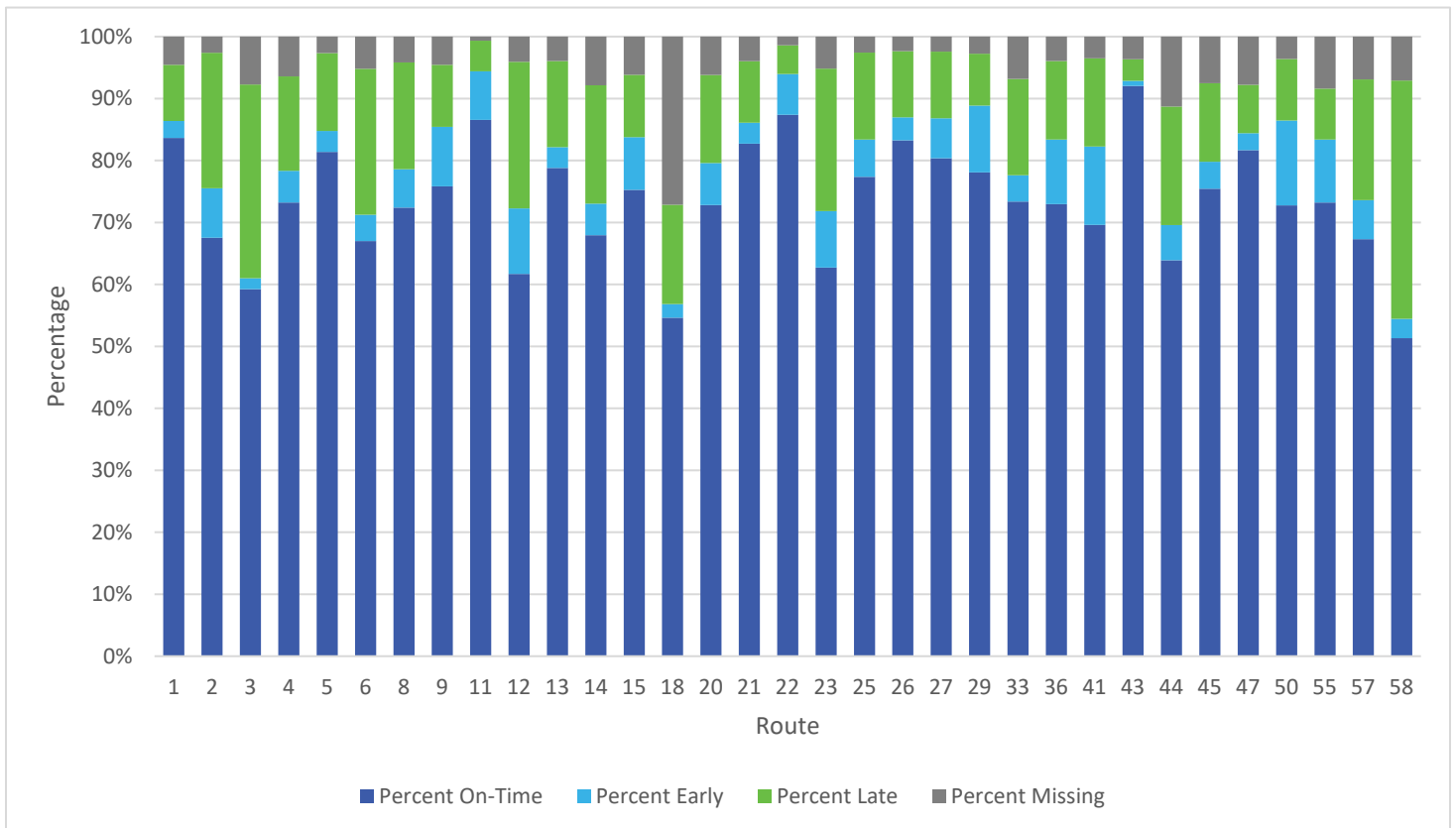
HRT’s on-time performance standard defines “on time” as zero minutes early to five minutes late at each time point. HRT also has a minimum goal of 85 percent on-time performance system-wide, at all time-points. On-time performance is a reflection of the reliability of a bus to be there when a passenger is expecting to make a trip.

On-time performance data for FY 2019 was used to analyze HRT’s on-time performance at the system level and service type level. In FY 2019, HRT’s system wide average on-time performance across all modes was 88 percent, which is above the agency’s target of 85 percent. HRT’s fixed-route on-time performance was below average in FY 2019 at 79 percent, while paratransit’s on-time performance was above average at 88 percent, and light rail’s on-time performance was above average at 98 percent.

Based on the August 2019 route level data for fixed-route bus service, Route 919 (Silverleaf Park & Ride / Naval Station Norfolk Gate 4), Route 922 (Greenbrier Mall Park & Ride / Naval Station Norfolk Gate 4), Route 973 (Portsmouth / Naval Station Norfolk), and Route 974 (Chesapeake / Naval Station Norfolk) have the highest on-time performance of all routes, at 95 percent; Route 403 (Buckroe Shopping Center) had the lowest on-time performances of all routes, at 42 percent.

The overall on-time percentage for Southside routes is 74 percent; for Peninsula Routes, 71 percent; for PCS routes, 57 percent; and for MAX routes, 74 percent. **Figure 2-46** through **Figure 2-50** provide a route level overview of on-time performance.³⁴

Figure 2-46: On-Time Performance by Southside Route, August 2019



³⁴ Route level on-time performance reflects August 2019 data.

Figure 2-47: On-Time Performance by Peninsula Route, August 2019

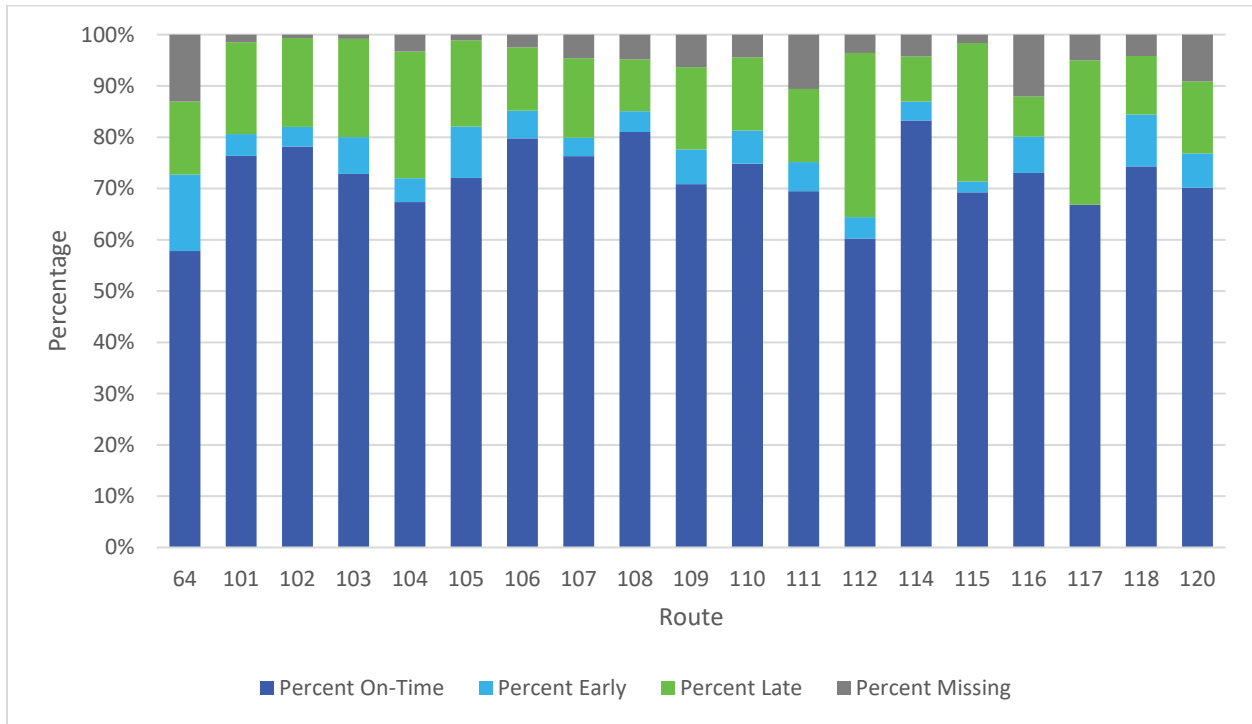


Figure 2-48: On-Time Performance by PCS Route, August 2019

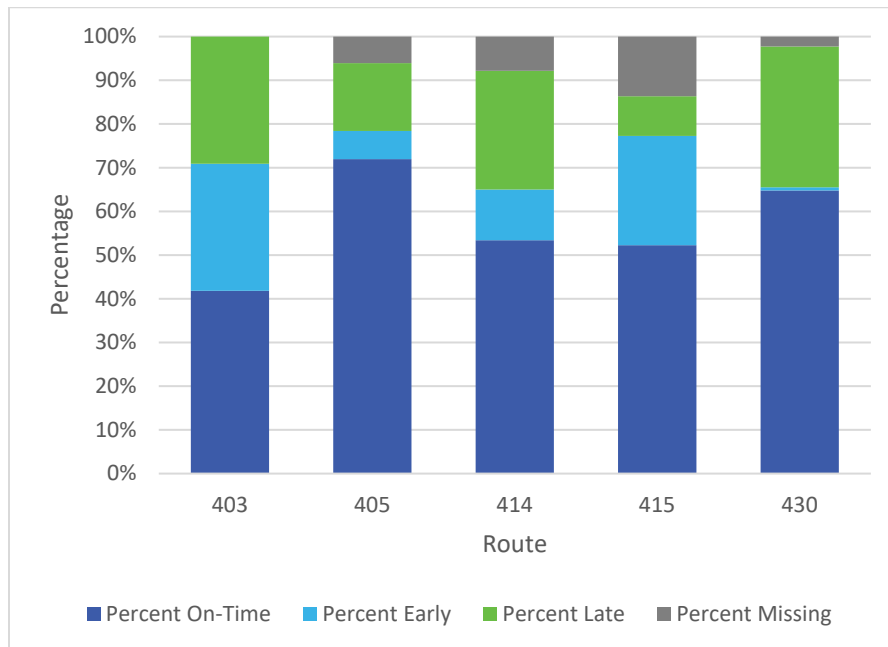


Figure 2-49: On-Time Performance by MAX Route, August 2019

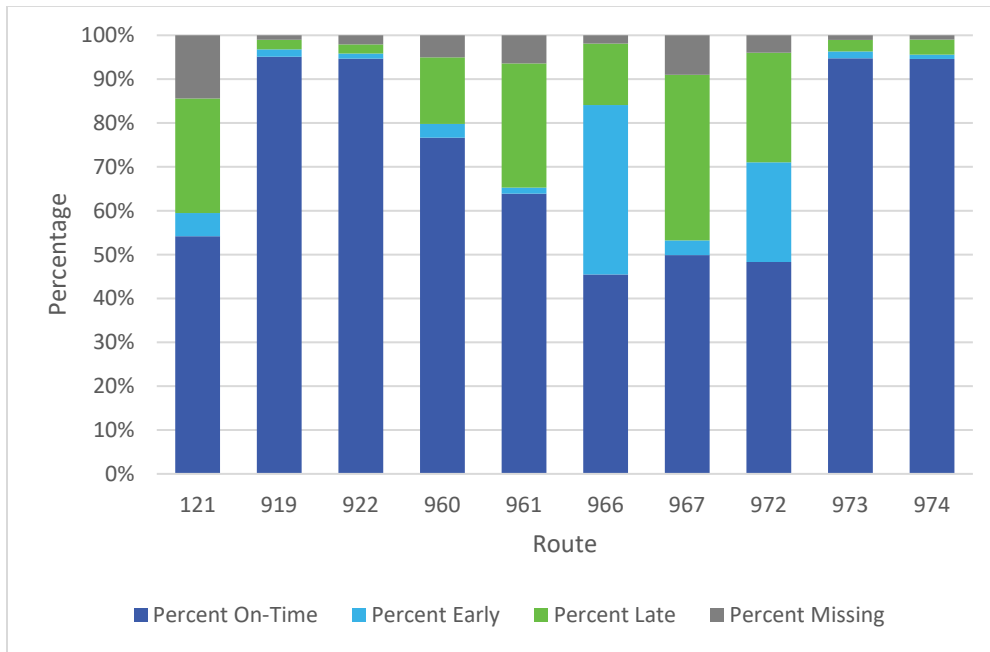
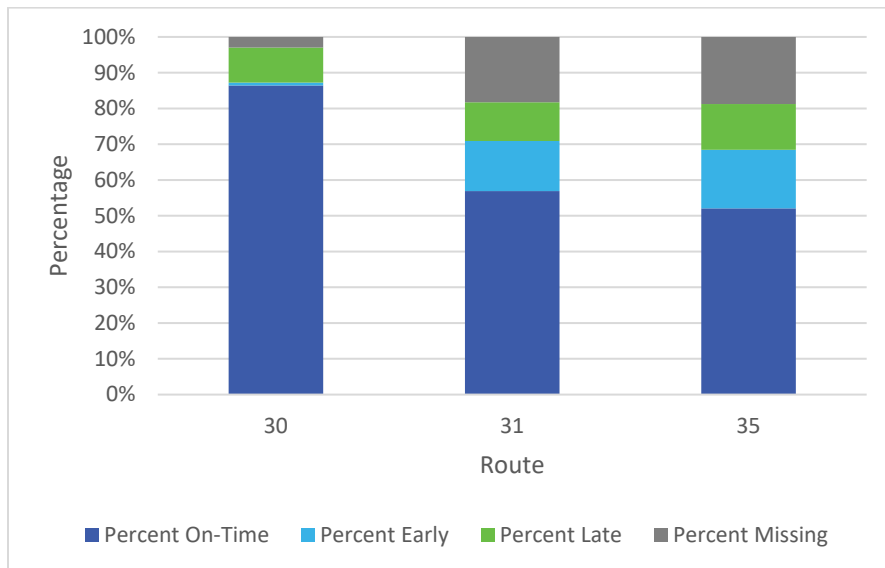


Figure 2-50: On-Time Performance by Trolley Route, August 2019



Passenger Loads

The passenger load assessment measures the comfort and safety of passengers while onboard a vehicle. It identifies how many people are on the bus at any given moment compared to its capacity. High passenger loads result in overcrowded conditions, which may require additional service to address the issue. For local services (Southside routes, Peninsula routes, and VB Wave and Bayfront Shuttle Services) the load standard is 125 percent of seated capacity for two or more miles. For Limited/Express services (PCS and MAX routes), the load standard is 100 percent of seated capacity and 125 percent if operated along an arterial road.

To identify routes with potential overcrowding, the weekday average maximum passenger loads on each route³⁵ were compared to the seated capacity of the vehicles assigned to each route.³⁶ The local load standards were applied to the Southside and Peninsula services, while Limited/Express load standards were applied to PCS and MAX services.

HRT's weekday passenger loads range from a low of six passengers on Route 43 (Downtown Portsmouth / Bart Street) to a high of 35 passengers on Route 967 (Virginia Beach - Chesapeake to Newport News). No routes had maximum loads that exceeded the load standard.

The average maximum weekday passenger loads for Southside and Peninsula routes are 18 and 17, respectively; PCS routes have an average maximum weekday passenger load of 20, and MAX routes have an average maximum weekday passenger load of 21.

Table 2-44 through **Table 2-47** detail the average maximum load experienced on a route and a load standard, or capacity, that should not be exceeded in order to ensure a safe, comfortable service.

³⁵ HRT Ridership Database reports on *Bus Stop Ridership by Route Trip* were used to identify weekday average maximum passenger loads. Southside and Peninsula route data is from March 1 to May 31, 2016; PCS and MAX route data is from February 1 to April 30, 2016, due to better sampling for those routes during this time. Route 922 is not included in the data; in both time periods, the sampling rate for the route was below 30 percent. VB Wave data was not available for either of these time periods.

³⁶ Capacity by route was determined by identifying HRT's assigned vehicle size by route, then finding the average capacity by vehicle size.

Table 2-44: Southside Max Load, March–May 2016

Route	Trip	Maximum Load	Load Standard
1	5:01 a.m.	29	44
2	7:13 a.m.	18	40
3	5:31 a.m.	26	44
4	6:29 a.m.; 2:04 p.m.; 3:42 p.m.; 4:22 p.m.	12	38
5	7:12 a.m.	12	38
6	6:26 a.m.; 4:21 a.m.	20	40
8	6:48 a.m.	22	40
9	12:58 p.m.; 4:25 p.m.	18	38
11	8:40 a.m.; 1:40 p.m.; 3:05 p.m.; 3:39 p.m.	11	38
12	6:48 p.m.	19	40
13	6:21 a.m.	34	40
14	8:22 a.m.	32	40
15	9:18 a.m.	28	44
18	5:44 p.m.	7	38
20	6:22 a.m.	31	44
21	3:01 p.m.	20	44
22	6:07 p.m.	12	38
23	2:06 p.m.	17	44
25	8:02 a.m.	22	38
26	4:25 p.m.	11	38
27	5:48 a.m.; 7:48 a.m.; 8:48 a.m.	13	38
29	6:48 a.m.	17	38
33	7:48 a.m.	24	40
36	1:48 p.m.	19	38
41	5:56 a.m.; 4:03 p.m.	18	38
43	6:36 a.m.; 7:03 a.m.; 10:38 a.m.; 4:03 p.m.; 5:03 p.m.	6	40
44	12:00 p.m.	14	44
45	6:07 a.m.	28	40
47	5:49 a.m.	18	38
50	6:03 a.m.; 3:33 p.m.	11	38
57	6:19 a.m.; 6:24 p.m.	11	40
58	7:48 a.m.; 4:18 p.m.	9	38

Table 2-45: Peninsula: Max Load, March–May 2016

Route	Trip	Maximum Load	Load Standard
64	5:35 a.m.	18	40
101	7:00 a.m.; 3:45 a.m.	18	40
102	8:19 a.m.; 9:19 a.m.	13	33
103	6:33 a.m.; 4:15 p.m.	20	40
104	6:45 a.m.; 7:15 a.m.; 9:45 a.m.; 3:45 p.m.	14	40
105	8:15 a.m.; 3:15 p.m.	18	40
106	6:02 a.m.	30	49
107	5:59 a.m.; 1:40 p.m.	20	49
108	9:25 a.m.; 2:43 p.m.	15	33
109	6:51 a.m.; 1:45 p.m.	12	40
110	7:00 a.m.	17	40
111	1:50 p.m.; 2:50 p.m.; 3:50 p.m.	12	40
112	10:45 a.m.	24	49
114	1:20 p.m.; 3:45 p.m.; 3:50 p.m.	17	40
115	5:45 a.m.	19	33
116	7:45 a.m.	12	33
117	6:15 a.m.	19	40
118	9:15 a.m.	21	40
120	1:31 p.m.	7	33
121	5:05 p.m.	11	33

Table 2-46: PCS: Max Load, February–April 2016

Route	Trip	Maximum Load	Load Standard
403	5:20 a.m.	21	32
405	3:40 p.m.	23	32
414	5:20 a.m.; 6:55 a.m.	18	32
415	3:45 p.m.	23	39
430	5:55 a.m.	29	39

Table 2-47: MAX: Max Load, February–April 2016

Route	Trip	Maximum Load	Load Standard
918	3:30 p.m.	12	35
919	2:54 p.m.	18	38
922	5:00 a.m.	14	
960	7:45 a.m.	29	38
961	3:40 p.m.	30	38
967	3:30 p.m.	35	38

2.4.2 Efficiency Based Opportunities for Improvement

Key Performance Indicator: On-time Performance

On-time performance is important to ensuring a reliable mode of travel for passengers, when routes are unreliable it discourages use of the system by existing passengers and even future passengers. For all service classifications, the benchmark is 85 percent on-time performance at all timepoints. HRT defines “on-time” as zero minutes early to five minutes late. Routes that fell short of 85 percent on-time performance did not meet the benchmark. Routes that were deficient in this category are:

- **Southside Services:** Routes 1, 2, 3, 4, 5, 6, 8, 9, 12, 13, 14, 15, 18, 20, 21, 23, 25, 26, 27, 29, 33, 36, 41, 44, 45, 47, 50, 55, 57, and 58
- **Peninsula Services:** Routes 64, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 114, 115, 116, 117, 118, 120, and 121
- **VB Wave and Bayfront Shuttle Services:** Routes 31 and 35
- **PCS:** Routes 403, 405, 414, 415, and 430
- **MAX:** Routes 960, 961, 966, 967, and 972

Key Performance Indicator: Maximum Load

The Maximum Load KPI is important in an important measure for comfort and safety. For local services (Southside, Peninsula, and VB Wave and Bayfront Shuttle Services), the benchmark is 125 percent of seated capacity for two or more miles. No Southside or Peninsula routes exceeded these maximum load capacities, as measured in February-April 2016. No load data is available for Southside Services Route 55 or VB Wave and Bayfront Shuttle Services Routes 30, 31, or 35.

For PCS and MAX routes, the benchmark is 100 percent of seated capacity for two or more miles (125 percent if operated along arterial rather than limited-access roadways). No PCS or MAX routes exceeded these maximum load capacities, as measured in February-April 2016. No load data is available for Metro Area Express Routes 922, 972, 973, or 974.

2.5 Analysis of Opportunities to Collaborate with Other Transit Providers

2.5.1 Overview of Collaboration Opportunities

Two other transit providers, Suffolk Transit and the Williamsburg Area Transit Authority (WATA), operate adjacent to the HRT service area. HRT routes currently connect with two Suffolk Transit routes and six WATA routes. HRT works with Suffolk Transit and WATA as needed to coordinate the details of connecting services, such as stop location and schedule.

The City of Suffolk, located west of HRT's Southside communities, operates Suffolk Transit, which provides fixed-route and paratransit service in and around Suffolk's downtown core. Suffolk Transit began service in January 2012 following the city's withdrawal from the Transportation District Commission of Hampton Roads (TDCHR) in 2011, contracting with Virginia Regional Transit to operate six fixed routes (Green, Orange, Yellow, Red, Purple, and Pink).³⁷ The Purple route currently connects with HRT Route 47 at the Walmart in Suffolk, and the Pink Route connects with Routes 44, 967, and 974 at the Chesapeake Square Transfer Point.

WATA's 12-route system operates north and west of the HRT service area, serving the City of Williamsburg as well as parts of James City County, Surry County, and York County. Six WATA routes (Route 1: Lee Hall [Gray]; Route 2: Richmond Road [Blue]; Route 3: Merrimac Trail [Orange]; Route 5: Monticello [Red]; Route 6: Jamestown; and Route 7: Mooretown Road [Tan] serve the Williamsburg Transportation Center, which is also served by HRT Route 121. Additionally, WATA's Route 1: Lee Hall (Gray) and Route 11: Lackey connect with HRT Routes 108 and 116 at Lee Hall in Newport News.³⁸ WATA is planning a Lower York County three-year demonstration route along US-17; its southern terminus will be the Walmart off Victory Boulevard, which is within a few blocks of the border of the City of Newport News.³⁹

The Hampton Roads Transportation Planning Organization (HRTPO), the region's metropolitan planning organization (MPO), provides opportunities for HRT to coordinate with other jurisdictions and agencies throughout the region. The HRTPO Board has members from all six HRT member jurisdictions as well as the Cities of Franklin, Poquoson, Suffolk, and Williamsburg, and the Counties of Gloucester, Isle of Wight, James City, Southampton, and York. Representatives from HRT and WATA also serve on the board.⁴⁰ HRTPO manages its Rail and Public Transportation Task Force and the Transportation Technical Advisory Committee (TTAC). The TTAC has a subcommittee, Hampton Roads Transportation Operations (HRTO), which focuses on improving transportation operations in the region. HRT, its six member jurisdictions, the City of Suffolk, and WATA all serve on the Task Force, TTAC, and HRTO.⁴¹

Virginia law (§ 33.2-286 D) requires the transit agencies in Planning District 23 to develop a regional transit planning process to be coordinated by the Hampton Roads Transportation Planning Organization (HRTPO). The transit agencies this applies to are Williamsburg Area Transit Authority (WATA), Suffolk Transit, and Hampton Roads Transit (HRT). The TSP Guidelines issued by DRPT reiterate the regional transit planning process requirement placed upon WATA, Suffolk Transit, and HRT.

Between 2018 and 2020 transit agency and HRTPO representatives met several times to discuss and work on issues related to their joint responsibility and to develop the regional transit planning process and its supporting policies and procedures that are now in place. At the center, it was determined that the Transit Strategic Plans (or Transit Development Plan in the case of WATA) adopted by each agency's governing body shall serve as the foundation for regional transit planning, with ongoing special attention to this section of the TSP (Section 2.5) to assist WATA, Suffolk Transit, and HRT in prioritizing activities and joint undertakings to promote ongoing inter-agency coordination and collaboration. It was also determined that updates may be made from time to time as the transit agencies collectively deem necessary, and for both the development of and revisions to the regional transit planning process, updates will require the unanimous consent and approval of all three agencies.

³⁷ Suffolk Transit, Accessed at <http://www.suffolkva.us/429/Suffolk-Transit>

³⁸ Williamsburg Area Transit Authority, Accessed at <https://gowata.org/>

³⁹ WATA Demonstration Route, Accessed at <https://www.yorkcounty.gov/DocumentCenter/View/35117/WATA--Lower-York-Route-2021>

⁴⁰ HRTPO Board, Accessed at <https://www.hrtpo.org/page/hrtpo-board/>

⁴¹ Hampton Roads Transportation Operations, Accessed at [https://www.hrtpo.org/page/hampton-roads-transportation-operations-\(hrto\)/](https://www.hrtpo.org/page/hampton-roads-transportation-operations-(hrto)/)

Concurrent with implementing the regional transit planning process through the TSP and TDP guidance, the HRTPO established the Regional Transit Advisory Panel (RTAP) in late 2020, which is required pursuant to § 33.2-286 of the Code of Virginia, to focus on the long-term vision for a multimodal regional public transit network in Hampton Roads. The RTAP is composed of representatives of major business and industry groups, employers, shopping destinations, institutions of higher education, military installations, hospitals and health care centers, public transit entities, and other groups identified as necessary to provide ongoing advice to the regional planning process. HRT has been and plans to continue to be an active participant in RTAP meetings. RTAP's nine subcommittees and their preliminary focus areas (as of mid-2021) are listed below:

- **Advocacy/Ambassador Work Group**
 - Create a strong group of diverse influencers who can advance the transportation efforts in the region.
 - Meet with legislators and discuss the importance of transportation to the future of our region.
 - Create awareness – Transportation Day.
- **Affordable/Accessible Housing Work Group**
 - Key factors in calculating housing affordability.
 - Prioritizing investment in affordable housing as a fiscally responsible pursuit.
 - Emphasis on coordinating across agencies and organizations.
- **Bus Stop Amenities Work Group**
 - Lighting solutions for non-sheltered stops.
 - “Adopt a Stop” campaign for partnering with the private sector.
 - Sidewalk improvements for safety and accessibility.
 - Information technology at stops.
- **Military and Transit Work Group**
 - Survey personnel from Naval Station Norfolk to determine the level of interest from base personnel for using public transit.
 - Exploration of an internal circulator route.
 - Park and Ride lots.
- **Major Employment Centers Work Group**
 - Provide enhanced transit service to the emerging health care epicenter including Eastern Virginia Medical School, CHKD, ODU health care center in Norfolk.
 - Discussions between HRT leadership and Newport News Shipbuilding to explore approaches to encourage increased ridership.
 - Virginia Ship Repair Association to initiate discussion on opportunities for Regional Backbone Network to better serve Shipyard Employees.
 - Explore use of large, under-utilized parking lots at big-box commercial establishments along Regional Backbone routes as potential Park and Ride locations; Recommend that the Virginia Peninsula and Hampton Roads Chambers convene roundtables between HRT/WATA transit systems and property representatives to discuss and explore opportunities.
- **Technology Work Group**
 - Make real-time GPS data available for existing third-party apps.
 - Expand service on existing HRT app.
 - Create app for fare purchase and mobile ticketing.
 - Expand apps with additional services like traffic data and last-mile availability.
 - Explore possibility of a combined regional transit app.
- **Tourism Work Group**
 - Focus on how transit could create opportunities for all stakeholders, and improve hospitality and tourism for employers, workers, and tourists alike.
 - Most immediate need is moving the workforce; focus on tourists will follow a fuller recovery from the pandemic.

- HRT, WATA, and Hampton Roads tourism/hospitality venues and attractions must commit to collaboration to develop routes more fully between the venues/attractions and where workers live.
 - Begin outreach to stakeholders to garner broad support for a strategic workforce transportation plan for tourism/hospitality venues and attractions within the Hampton Roads region.
- Opportunities for connection to tourism jobs in the Historic Triangle:
 - Improving the peak period frequency of one or more existing WATA bus routes that serve tourism sites within the Historic Triangle, including to Lee Hall which requires coordination with HRT.
 - Creating Park and Ride opportunities at locations such as shopping centers, government buildings, schools.
 - WATA is working on a plan for a new bus route along the Route 17 corridor in York County. Due diligence is underway.
- **Transit Oriented Development (TOD) Work Group**
 - Met with cities’ planners and found that cities are ready for TOD; zoning is in place to accommodate TOD; success is dependent upon frequent and reliable service on Regional Backbone; must change perception that transit only serves minimum wage riders.
 - Recommendations to understand core ridership and their needs; incentivize services at transit stations; study peer region TOD efforts; focus on Regional Backbone routes with microtransit connections; expand access for workers; create and implement a PR campaign.
- **Universities/Colleges Work Group**
 - Connecting four College/University Campuses/Anchors of Innovation and improving access to them.
 - Encourage HRT to apply for Transit Ridership Incentive Program Zero Fare/Low Pilot for The Tide (GO Pass/GOPASS365).
 - Encourage HRT to explore potential for dedicated shuttle between Fort Norfolk Light Rail Stop and ODU Campus.
 - Explore potential for autonomous vehicle demonstration project on a college/university campus and/or Granby St between Brambleton Ave and Main St.
 - Encourage HRT and city stakeholders to explore micromobility for first- and last-mile connections.

Further collaboration among transit providers and other agencies in the region will benefit both transit users and transit providers. Users could benefit from more connected and streamlined services; by connecting and collaborating, transit providers could gain a wider base of potential riders and gain access to new technology and funding opportunities, leading to costs savings for both providers and users. Specific opportunities for collaboration fall into two broad categories: communication and service coordination. These opportunities are described in the following sections.

2.5.2 Collaboration Updates

Since the previous TSP was adopted in June 2020, more regional coordination activities have occurred. The HRTPO established a committee called the Regional Transit Coordination Working Group, which has held meetings on these dates: September 15, 2020; December 3, 2020; April 27, 2021; and October 26, 2021. This achieved one of the opportunities for improvement previously shared in **Table 2-48**, to “establish a regional transit technical committee that meets regularly and is facilitated by the HRTPO.” This committee was formed to discuss regional priorities for transit and potential joint funding and purchasing opportunities; opportunities for inter-agency collaboration, including coordination of relevant portions of Transit Strategic Plans; and coordination of capital planning and programming. Because this item was achieved, it has been removed from **Table 2-48** in this TSP minor update.

2.5.3 Collaboration Based Opportunities for Improvement

This section provides an overview of opportunities for collaboration which could benefit HRT and other transit providers in the region. These strategies have low barriers to implementation and would most benefit from interagency collaboration.

Communication, Funding, and Procurement

There is an opportunity to improve communication between transit providers and between the providers and the public. The improved communication, especially among HRT, Suffolk Transit, and WATA, would help facilitate improved coordination of service as well as other opportunities for collaboration, such as joint purchasing. These communication opportunities are listed in **Table 2-48**.

Table 2-48: Communication Collaboration Opportunities

Opportunity	Description
Joint marketing and rider information tool	Development of a regional transit map, schedules, and brochures
	Establishment of a regional trip planning website

Service Coordination

Another avenue for expanding collaboration among the service providers in the area is through service coordination. Service coordination allows for riders to transfer more seamlessly between systems and helps ensure that HRT, Suffolk Transit, and WATA are running complementary service. Specific service coordination opportunities are listed in **Table 2-49**.

Table 2-49: Service Coordination Collaboration Opportunities

Opportunity	Description
Coordinated scheduling and service	Establishment of regional transit priority corridors across systems.
	Alignment of schedules and operations, especially at transfer locations.
	There are new Amazon facilities in Chesapeake and Suffolk. HRT is beginning to serve both facilities in Fall 2021 via the new MAX Route 980 and in the future Route 45 will also serve them. Suffolk Transit will be offering limited service to the facilities: <ul style="list-style-type: none"> ■ Suffolk Transit’s Pink Route provides service along Northgate Commerce Parkway. ■ To the Suffolk Amazon facility, riders will be able to request the stop. On the way home, riders would need to walk to the Pink Route stop located across from American Assemblies. ■ To the Chesapeake Amazon facility, riders would need to request to get off on Nansemond Parkway and walk to the facility. To get home, they would need to walk back out to Nansemond Parkway and flag the bus down.
	HRT and Suffolk Transit can further coordinate service to the Amazon facilities.
	Suffolk Transit is exploring extending service to Victory Crossing in Portsmouth. ⁴²
	WATA’s planned demonstration route on US-17 will provide service close to the HRT service area—within blocks of Newport News. HRT and WATA can explore connecting nearby services to each other, which would provide a new connection point between the systems.
On-demand microtransit service	Exploration of new on-demand transit service to serve lower-density areas and exploration of jointly developing these services.
Fare system integration	Development of common fares among service providers and shared transfer policies.
	Establishment of a single fare payment mechanism (requires technology upgrades).
Shared technology	Exploration of trip planning apps that integrates all the service providers.
Regional paratransit service	Designation of a regional paratransit service operator across jurisdictions.

Continuing collaboration actions for HRT and its regional partners are to meet regularly and collaborate on a variety of initiatives and to develop and proceed with action plans to further the opportunities identified above, along with any new opportunities that might be discovered. Fare system integration is high on the list of priorities for collaboration and was discussed at the December 2020 committee meeting.

⁴² <https://www.suffolknewsherald.com/2020/11/30/suffolk-transit-looks-to-expand-regional-connections/>

2.6 Supplemental “Essential” Route Analysis

This analysis assesses the “essentialness” of HRT routes in terms of ridership retained during the COVID-19 pandemic and the characteristics of the population they serve. This two-dimensional analysis is based on two measures of demand: pre-pandemic to pandemic-era ridership retention and transit-oriented population index score. HRT may consult this analysis in the future when prioritizing routes for service increases or when evaluating how to implement reduction in service. The methodology may also be used as a reference for constructing other route performance analyses in the future.

2.6.1 Methodology

To calculate ridership retention rates for each fixed-route service and the system, route-level ridership data from July and August 2019 (FY 2020, pre-pandemic) when regular service operated were compared to route-level ridership data from July and August 2020 (FY 2021, during the pandemic) when regular service operated and fares were collected after the Essential Service Plan was cancelled.⁴³ Retention was measured as a ratio of pandemic-era ridership to pre-pandemic ridership. As such, a ridership retention rate of 30 percent indicates that a route retained 30 percent of its pre-pandemic ridership as measured in pandemic-era. Overall, approximately 55 percent of ridership was retained systemwide during the pandemic: 54 percent of Southside and 58 percent of Peninsula ridership was retained.

The second measure is the relative share of transit-oriented populations within each route’s service area. This was calculated using the transit-oriented population index, which identifies areas with higher numbers and concentrations of potential transit-oriented customers (people who have higher likelihood to use transit or be dependent on transit for travel needs). The index is constructed from various demographic statistics in five categories: population (including race and ethnicity), age, income, vehicle ownership, and disability status. After each block group was scored in these categories, the scores were weighted and combined to create an overall transit-oriented population index. Each route was assigned a score from zero to 100 based on the index scores of the block groups that the routes travel through. Additional details on the transit-oriented population index are available in **Section 2.2**. Systemwide, HRT’s transit-oriented population score is 71.84. On the Southside this score is slightly below the system average at 70.65, and the Peninsula score is 81.23. Southside routes and Peninsula routes were scored separately from one another due to their geographic separation (no fixed-route service operates in both areas) and because of the differences in their land use and development patterns—were they to be combined, the Peninsula scores would be suppressed due to overall higher average densities on the Southside.

2.6.2 Findings

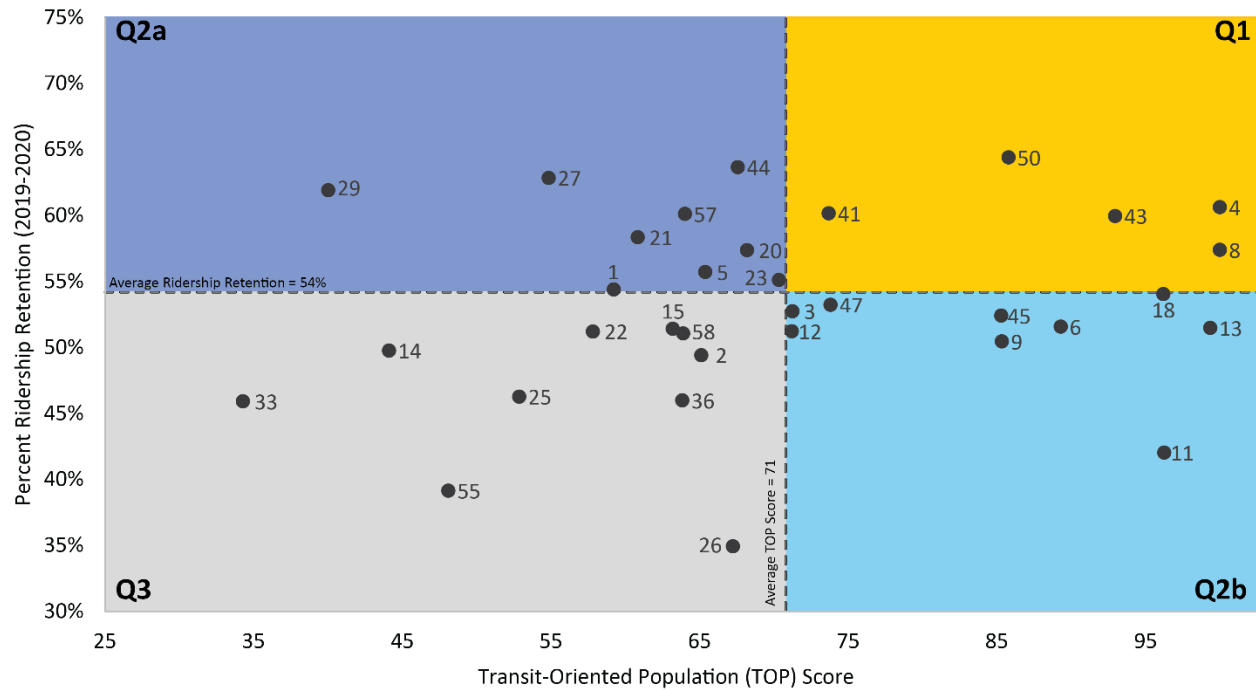
The results of the analysis are displayed separately for the Southside (**Figure 2-51** and **Table 2-50**) and the Peninsula (**Figure 2-52** and **Table 2-51**). The charts are divided into four quadrants based on the averages on each axis. The routes which fall above average for both measures would be considered the most “essential routes” because they retained the most ridership and serve areas with relatively higher amounts of transit-oriented populations (represented in the top-right corner in bright yellow and labeled as Q1). Routes that fall above the average for ridership, but below the transit-oriented population average are shown in the top-left corner (Q2a) in dark blue. Routes that fall below the ridership average but above the transit-oriented population average are shown in the bottom-right corner (Q2b) in bright blue. Routes that fall below both averages are shown in the bottom-left corner (Q3) in grey.

⁴³ Limited/Express routes were not included in this analysis; these are commuter-focused routes and most only operate a few trips a day. The VB Wave Trolley routes (Routes 30, 31, and 35) were excluded from the analysis. These routes are seasonal and did not operate in FY 2021 as a result of the pandemic. Finally, Route 24 did not start operating until the October 2019 so for the purpose of this analysis there were no pre-pandemic ridership data available; this route was not included in the analysis due to limited data.

Southside Results

On the Southside, five routes fell into Q1: Routes 4, 8, 41, 43, and 50. Route 4 and Route 8, which both serve downtown Norfolk had the highest transit-oriented propensity scores within this group and across the whole Southside, indicating that these routes are essential for providing service to transit-oriented populations. Route 50 had the highest retention rate on the Southside, at 64 percent—it is a compact route that connects Downtown Portsmouth with Victory Crossing, TCC-Portsmouth, and residential neighborhoods in between. Route 41 and Route 43, two other Portsmouth routes, also fell within this top quadrant.

Figure 2-51: Essentialness Analysis Results – Southside



Nine routes (Routes 1, 5, 20, 21, 23, 27, 29, 44, and 57) had above average ridership retention, but a below average transit-oriented population score relative to the rest of the Southside routes, falling into Q2a. Route 29, for example, operates along major thoroughfares in Virginia Beach, serving numerous essential businesses and a large hospital, which likely contributed to its high ridership retention rate. Similarly, Route 20 provides a unique east-west connection on the Southside, with a one-seat ride between Downtown Norfolk to the Virginia Beach oceanfront. The ridership retained on these routes is evidence that demand has remained relatively high for them, likely driven by other factors besides transit-oriented population like essential destinations (e.g. Routes 23 and 44 serve Sentara Norfolk General Hospital).

Nine routes (Routes 3, 6, 9, 11, 12, 13, 18, 45, and 47) fall within Q2b with above average transit-oriented population scores, but below average ridership retention rates. These routes operate in areas where transit-reliant populations likely live, but they did not have as high a rate of ridership retention during the pandemic compared to the Southside as a whole. Most routes in this quadrant had ridership retention levels that were not much lower than average, but their transit-oriented population scores varied widely across the quadrant. Route 11 was the only route with a notably lower ridership retention score of 42 percent, representing the third lowest score on the Southside. Routes 3, 12, and 47 scored within just a few points of the average on both measures.

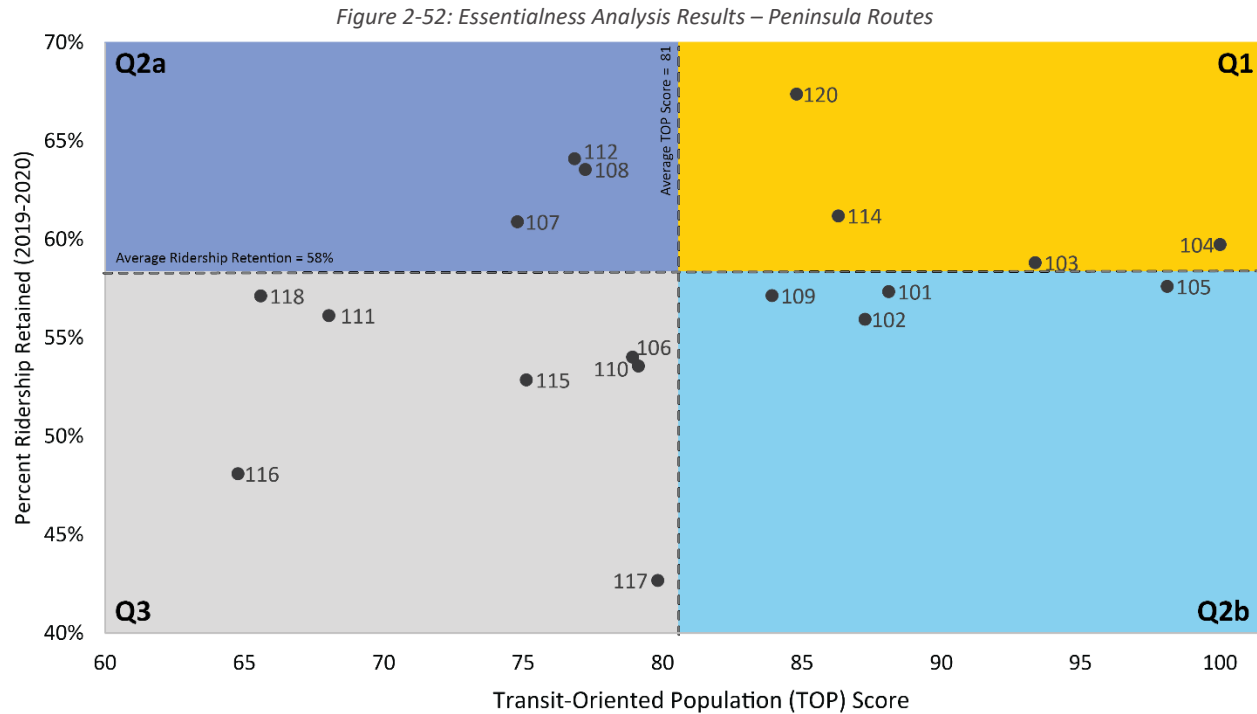
Finally, ten routes (Routes 2, 14, 15, 22, 25, 26, 33, 36, 55, and 58) fell below both the ridership retention and transit propensity averages for the Southside (Q3). Some routes, including Routes 26 and 55, are shorter and provide service to traditional enclosed shopping malls, which were less busy during the pandemic, resulting in lower ridership. Route 1 is the longest fixed route in the system and serves a wide variety of land uses which helps explain how it scores lower on the transit-oriented population score; its ridership retention was very close to average.

Table 2-50: Route-Level Essentialness Analysis Results – Southside Routes

Route	Transit Propensity	Ridership Retention
1	59	54%
2	65	49%
3	71	53%
4	100	61%
5	65	56%
6	89	52%
8	100	57%
9	85	50%
11	97	42%
12	71	51%
13	99	51%
14	44	50%
15	63	51%
18	96	54%
20	68	57%
21	61	58%
22	58	51%
23	70	55%
25	53	46%
26	67	35%
27	54	63%
29	40	62%
33	34	46%
36	64	46%
41	73	60%
43	92	60%
44	67	64%
45	85	52%
47	73	53%
50	85	64%
55	48	39%
57	63	60%
58	62	51%

Peninsula Results

On the Peninsula, four routes fall into Q1: Routes 103, 104, 114, and 120. Route 104 had the highest transit-oriented population score, of any route on the Peninsula while its ridership retention was just above average. Route 120 had the highest ridership retention rate on the Peninsula, at 67 percent. Route 120 connects Downtown Hampton to Buckroe and serves as an important east-west connection within the City of Hampton.



Three routes (Routes 107, 108, and 112) are within Q2a with above average ridership and below average transit-oriented population score. All three of these routes provide north-south connections within Newport News, serving universities, commercial districts, residential communities, employment centers, and downtown Newport News, all of which could have contributed to higher ridership retention.

Four routes (Routes 101, 102, 105, and 109) had an above average transit-oriented population score, but a below average ridership retention rate (Q2b). While their ridership retention fell below average, it was only by a few points. Their transit-oriented population scores varied, with Route 105 having the second highest score on the Peninsula, likely due to its route design pattern which meanders through and connects many different residential areas.

Finally, seven routes (Routes 106, 110, 111, 115, 116, 117, and 118) landed in Q3 with below average ridership retention and transit-oriented population scores. Route 106 provides north-south connections in Newport News; it provides similar service to Route 107 along much of its alignment and this duplication of service may have impacted Route 106's ridership retention. Route 117 has the lowest ridership retention on the Peninsula with 43 percent of ridership retained; this could be due to decreased in-person services available at Hampton University and the VA during the pandemic-era period of analysis.

Table 2-51: Route-Level Essentialness Analysis Results - Peninsula

Route	Transit Propensity	Ridership Retention
101	80	57%
102	79	56%
103	85	59%
104	100	60%
105	89	58%
106	72	54%
107	68	61%
108	70	64%
109	76	57%
110	72	54%
111	62	56%
112	71	64%
114	78	61%
115	68	53%
116	59	48%
117	73	43%
118	60	57%
120	77	67%

2.6.3 Analysis Limitations

While this analysis provides valuable information it is not without its limitations:

- The ridership retention in this analysis is specific to a snapshot in time during the COVID-19 pandemic. Impacts to elements of the economy were a result of the nature of the pandemic, which resulted in changes to how people traveled on a daily basis. While some people were made to or opted to remain at home, others were required to travel into work for essential jobs or for jobs that had no at-home option. This analysis sheds light on which routes lost the least amount of ridership during this pandemic, but other analyses of ridership retention conducted at different points in time may follow different patterns as a result of other economic or social shifts.
- There are many different measures of land use that could be applied to the horizontal axis of this analysis. The transit-oriented population measure was used because it identifies residents who are likely to use or depend on transit, and in the context of trying to determine which routes provide essential service, this was an important consideration. However, other measures of land use would create different results, such as taking into consideration destination-based land use like employment or shopping.
- The quadrants used in this method provide a tactile way to visualize how the routes compare to each other and to the averages. The results should not be interpreted to mean that some routes are more essential than others, or that some routes are not essential. While some routes scored higher than others, or scored above the averages, these results should be interpreted within the specific context of this analysis and should not be generalized beyond it.

CHAPTER 3

Planned Improvements and Modifications

FY2023 – FY2032



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Contents

3. Planned Improvements and Modifications

3.1	Planned Service Improvements	3-1
3.2	Estimated Ridership Due to Improvements	3-226
3.3	Prioritization of Planned Service Improvements	3-230
3.3.1	Prioritization	3-230
3.3.2	Inclusion in Other Plans	3-233
3.4	Service Development	3-233
3.4.1	Operations Planning	3-233
3.4.2	Equity Evaluation	3-238
3.4.3	Paratransit Service Area Evaluation.....	3-245
3.4.4	Title VI Program Review.....	3-249
3.4.5	Factors Impacting Service Development	3-249

Tables

Table 3-1:	Estimated Weekday Daily Ridership for Improvements Compared to 2019 Ridership	3-226
Table 3-2:	Prioritized Improvements by Time Period	3-231
Table 3-3:	Results of Transfer Facility Analysis	3-232
Table 3-4:	Service Expansion and Reduction by Year	3-234
Table 3-5:	Equity Analysis Results.....	3-244
Table 3-6:	HRT FY 2022 - FY 2031 Fleet Replacement Schedule (by Year of Funding)	3-250

Figures

Figure 3-1:	FY 2030 Weekday AM Peak Frequency (Peninsula)	3-222
Figure 3-2:	FY 2030 Weekday Peak Frequency (Southside)	3-223
Figure 3-3:	Service Target Weekday Peak Frequency (Peninsula).....	3-224
Figure 3-4:	Service Target Weekday Peak Frequency (Southside).....	3-225
Figure 3-5:	Peninsula Geographic Loss of Service	3-240
Figure 3-6:	Southside Geographic Loss of Service	3-241
Figure 3-7:	Peninsula Level of Service Loss.....	3-242
Figure 3-8:	Southside Level of Service Loss	3-243
Figure 3-9:	Peninsula Paratransit Service Area Gains and Losses.....	3-246
Figure 3-10:	Southside Paratransit Service Area Gains and Losses	3-248

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3. Planned Improvements and Modifications

This chapter includes the planned service improvements that were created based upon the service design standards outlined in **Chapter 1** and the analyses and performance assessments in **Chapter 2**. The planned service improvements build upon the enhancements that were documented in last year's Transit Strategic Plan. This chapter describes the planned service changes and the phasing plan, which groups the service changes into short-term, mid-term, and long-term implementation phases. The operational needs are presented in terms of annual service hours, which relates to bus operator and other agency hiring needs, and peak vehicle requirements. Additional analyses were performed to measure service equity and the impact to HRT's paratransit network. Lastly, other factors that may impact the ability to implement the planned improvements have been identified and listed for consideration.

3.1 Planned Service Improvements

The improvements outlined in this section are designed to increase service efficiency and the attractiveness of using the HRT system, while also increasing route directness, which helps to improve overall transit trip speed and on-time performance. Much consideration was also given toward improving the ability to transfer between services at convenient locations in order to increase system-wide accessibility.

Based on public and stakeholder input received during HRT's *Transit Transformation Project*, more high-frequency service and more consistent hours of service across jurisdictions will be provided. Additionally, focus was placed on increasing frequency of service during the peak periods. A couple of new routes and several more trips on existing routes have also been planned to increase service offerings for HRT's Limited/Express options. The improvements to service on the Regional Backbone and Limited/Express routes, which are also documented in **Chapter 6**, are being made possible by the Hampton Roads Regional Transit Program and Fund (HRRTP and HRRTF).

The planned service outlined in this chapter through FY 2032 represents a locally cost-constrained plan, meaning that the service plans are constrained to what HRT's funding partners have identified as acceptable. To quantify the cost of operating the service plan, a service planning calculator was developed to estimate annual revenue hours, annual revenue miles, and peak vehicles, ensuring that each year of the plan involves an increase in revenue hours that was acceptable to each city in terms of the associated increase in cost. With the increased funding provided by the HRRTF and some additional funding provided by the cities, by FY 2032, HRT's bus system would operate approximately 42 percent more revenue hours than it does today and is estimated to achieve a 31 percent increase in annual ridership over 2019 (**Section 3.2**). More than two-thirds of the additional revenue hours would be funded through the Hampton Roads Regional Transit Fund.

This section contains route profiles that describe the planned service improvements through the ten years of the TSP and beyond. The planned system has 44 local fixed routes, five Virginia Beach trolley routes, and 17 Limited/Express routes compared to the existing 50 local fixed routes, three Virginia Beach trolley routes, and 14 Limited/Express routes. While six local fixed routes are recommended for elimination, the majority of those areas will have an HRT service still within a convenient walking distance. No service adjustments are included for The Tide Light Rail or the ferry. Following the route descriptions are systemwide maps, starting on page **3-222**.

3.1.1 What's New

This minor update of the TSP for FY 2023 – FY 2032 reflects updates that have been made since the first TSP (FY 2021 – FY 2030) and the first minor update (FY 2022 – FY 2031) were finalized. As of Fall 2021, Route 55 and Route 116 will be eliminated in accordance with these previous TSPs; their route profiles do not appear in this Chapter 3 nor in this update's existing service maps. Additionally, a few new routes are presented in this minor annual update: VB Wave Route 34 (Summer), VB Wave Route 34 (Off-Season), and MAX Route 962.

3.1.2 Route Profile Contents

The route profiles which follow contain:

- A description of the service changes.
- The justifications for the service changes, including:
 - Key Performance Indicators, which are measures of a route’s performance, are discussed when relevant to a service change (full performance analysis data can be found in **Chapter 2, Section 2.3**).
 - Some justifications also include reference to analyses that were part of the analysis of transit demand and underserved area opportunities for improvement from **Chapter 2, Section 2.2.2**.
 - For each of the justifications, icons provide quick reference as to the types of justifications included for each route:



Transit demand and underserved areas-based opportunities for improvement identified in **Section 2.2.2**



Performance-based opportunities for improvement (passengers per revenue hour, passengers per one-way trip, farebox recovery, subsidy per passenger boarding) as described in **Section 2.3.2**



Efficiency-based opportunities for improvement (on-time performance and maximum load) as described in **Section 2.4.2**



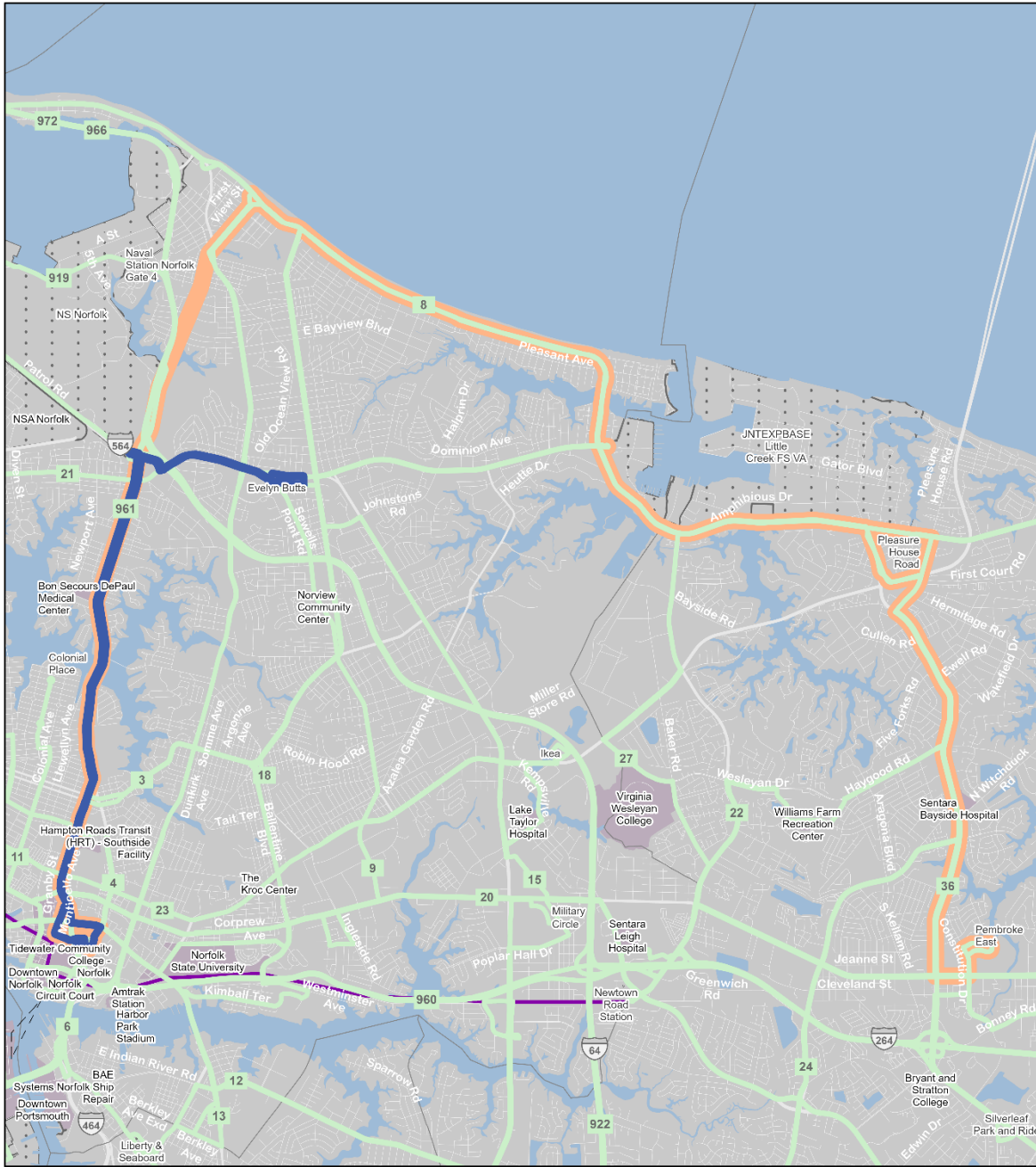
Improvements to meet the service design standards and goals as described in **Chapter 1**

- A table showing the route’s service classification.
- A table showing the origins and destinations as well as the jurisdictions served, comparing existing service to the planned service.
- A table comparing level of service—span and headway—between the existing service and the service targets¹ for the route:
 - On weekdays the periods shown are approximately associated with the following times, but would vary based on demand:
 - **Early** - Before 6:00 a.m.
 - **AM Peak** - 6:00 a.m. to 9:00 a.m.
 - **Midday** - 9:00 a.m. to 3:00 p.m.
 - **PM Peak** - 3:00 p.m. to 6:00 p.m.
 - **Evening** - 6:00 p.m. to 11:00 p.m.
 - **Late Night** - After 11:00 p.m.
 - On weekends the periods shown are approximately associated with the following times:
 - **Base** - 8:00 a.m. to 6:00 p.m.
 - **Non-Base** - 6:00 a.m. to 8:00 a.m. and 6:00 p.m. to 9:00 p.m.
 - **Early/Late** - before 6:00 a.m. and after 9:00 p.m.
- A table showing the phased implementation across the ten-year period of route alignment changes, span of service changes, and frequency of service changes.
- A place for any special notes that apply to the route.
- A map showing the route, other related routes, eliminated sections of the route (if applicable), and other relevant transportation information.

¹ The service targets describe the span and frequency a route would need to achieve in order to fulfill the service design standards for its service classification. Not all routes’ service targets are met due to individual cost constraints of each of the jurisdictions.



Route 1



Route 1

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 1

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk Transit Center / Pembroke East	Downtown Norfolk Transit Center / Evelyn T. Butts Avenue
Jurisdictions	Norfolk, Virginia	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		4:44 a.m. - 1:30 a.m.	4:44 a.m. - 1:30 a.m.
Saturday		4:40 a.m. - 1:31 a.m.	4:40 a.m. - 1:30 a.m.
Sunday		5:37 a.m. - 1:30 a.m.	4:40 a.m. - 1:30 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15
	PM Peak	15	15
	Evening	40	30
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	15
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- Route 1 will operate along its current alignment between the Downtown Norfolk Transit Center (DNTC) and Wards Corner. It will be realigned at Wards Corner and turn onto Little Creek Boulevard to service Evelyn T. Butts. Service north and east of Evelyn T. Butts will be discontinued on Route 1; however, much of the service along the discontinued segments will be covered by the realigned Routes 8, 27, and 36.
- Existing short turns on Route 1 will be eliminated so that all trips operate the full length of the route.
- Weekday span of service remains the same as current Route 1 service. On weekdays Route 1 will operate with 15-minute service during the AM peak, midday, and PM peak periods. In the early and evening periods on weekdays service will be provided at half hour headways. The route will operate hourly after 11:00 p.m. on weekdays.
- Saturday service span will not change and 15-minute service will be provided from 8:00 a.m. to 6:00 p.m.. Sunday span of service and headways will be improved to match the increase of service on Saturdays.



Justification

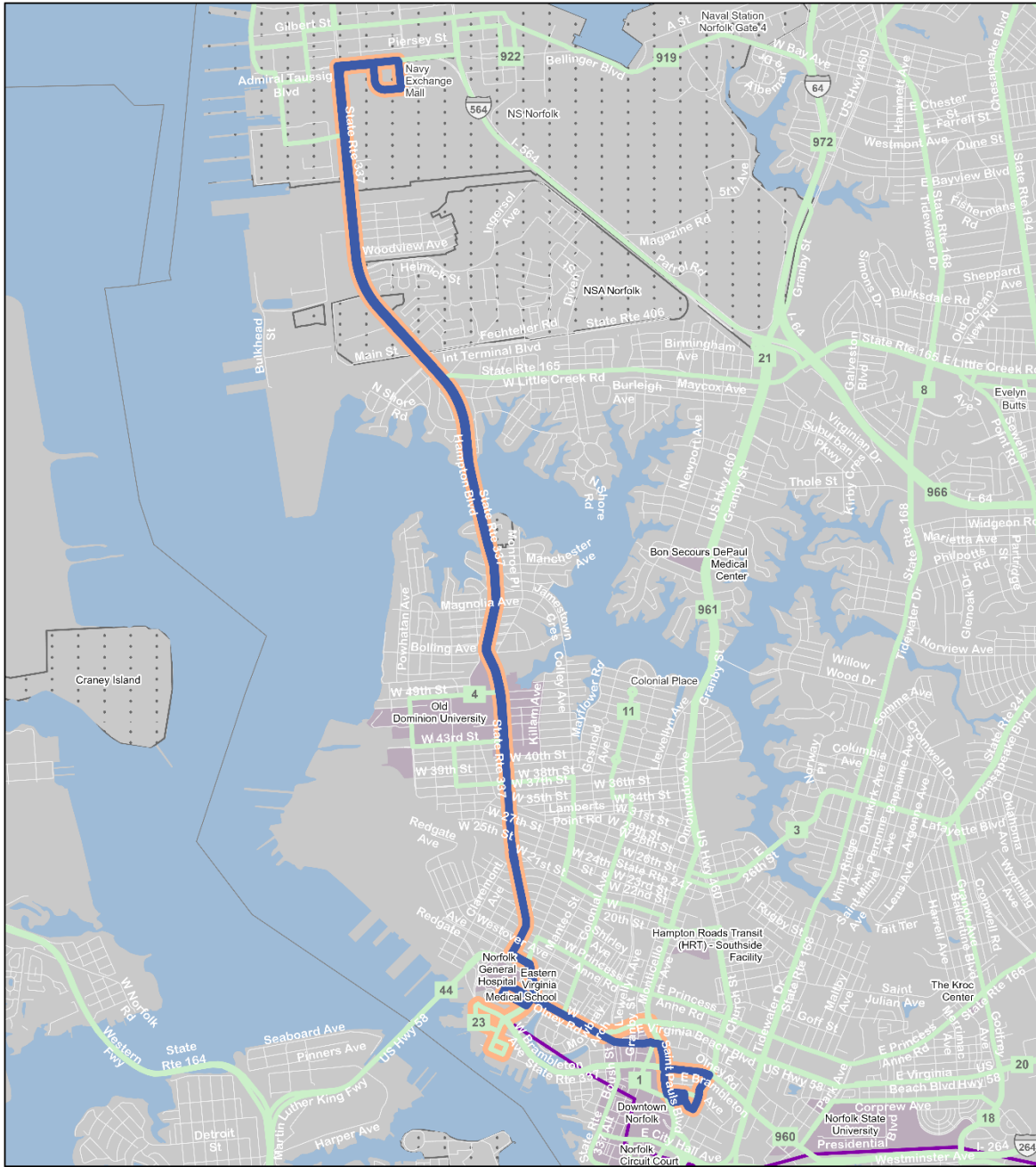
- Simplifying the route by shortening it and eliminating short turns will standardize service levels across the entire route and will create a simpler schedule and map for customers to understand.
- This corridor warrants 15-minute service on weekdays in the peak periods and midday due to the transit market demand and activity centers served along the alignment (Granby Street is a key north-south corridor in Norfolk south of Little Creek Rd). This corridor has a high concentration of areas with opportunities for improvement of service according to the multimodal service index analysis from **Chapter 2, Section 2.2.2**.
- The service levels for Route 1 meet the service standards defined for Regional Backbone routes.

Route 1

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 1 will operate along its current alignment between the Downtown Norfolk Transit Center (DNTC) and Wards Corner. It will be realigned at Wards Corner and turn onto Little Creek Boulevard to service Evelyn T. Butts. Service north and east of Evelyn T. Butts will be discontinued on Route 1; however, much of the service along the discontinued segments will be covered by the realigned Routes 8, 27, and 36. Existing short turns on Route 1 will be eliminated so that all trips operate the full length of the route. Improve Sunday span to 4:40 a.m. to 1:30 a.m.. Improve weekday evening and Sunday non-base headways to 30 minutes. Improve weekday midday, Saturday base headways, and Sunday base headways to 15 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			


Route 2




Route 2

Focus Route


-  Planned Alignment
-  Existing Alignment


 Planned System

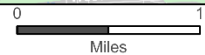
 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 2

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Navy Exchange Mall / Downtown Norfolk Transit Center	Navy Exchange Mall / Downtown Norfolk Transit Center
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
	Weekday	4:51 a.m. - 11:42 p.m.	4:51 a.m. - 1:00 a.m.
	Saturday	5:11 a.m. - 1:09 a.m.	5:11 a.m. - 1:00 a.m.
	Sunday	5:28 a.m. - 12:20 a.m.	5:11 a.m. - 1:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	49	30
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 2 will be realigned to travel on Hampton Boulevard, Redgate Avenue, Colley Avenue, and Olney Avenue to streamline the service. The realigned Route 2 will be more direct compared to its existing alignment. Route 2 will still serve Norfolk General Hospital via Olney Avenue and Fairfax Avenue. Route 23 will continue to serve the Fort Norfolk area where Route 2 will no longer serve. Route 2 will no longer service Virginia Beach Boulevard (covered by Route 11).
- The weekday span will be improved to end at 1:00 a.m.. Headways will be improved to 15 minutes during the weekday peak periods and midday period and to 30 minutes during weekday evening period.
- Weekend service will be provided between 5:11 a.m. and 1:00 a.m. and will be offered at half hour intervals through much of the service day.



Justification

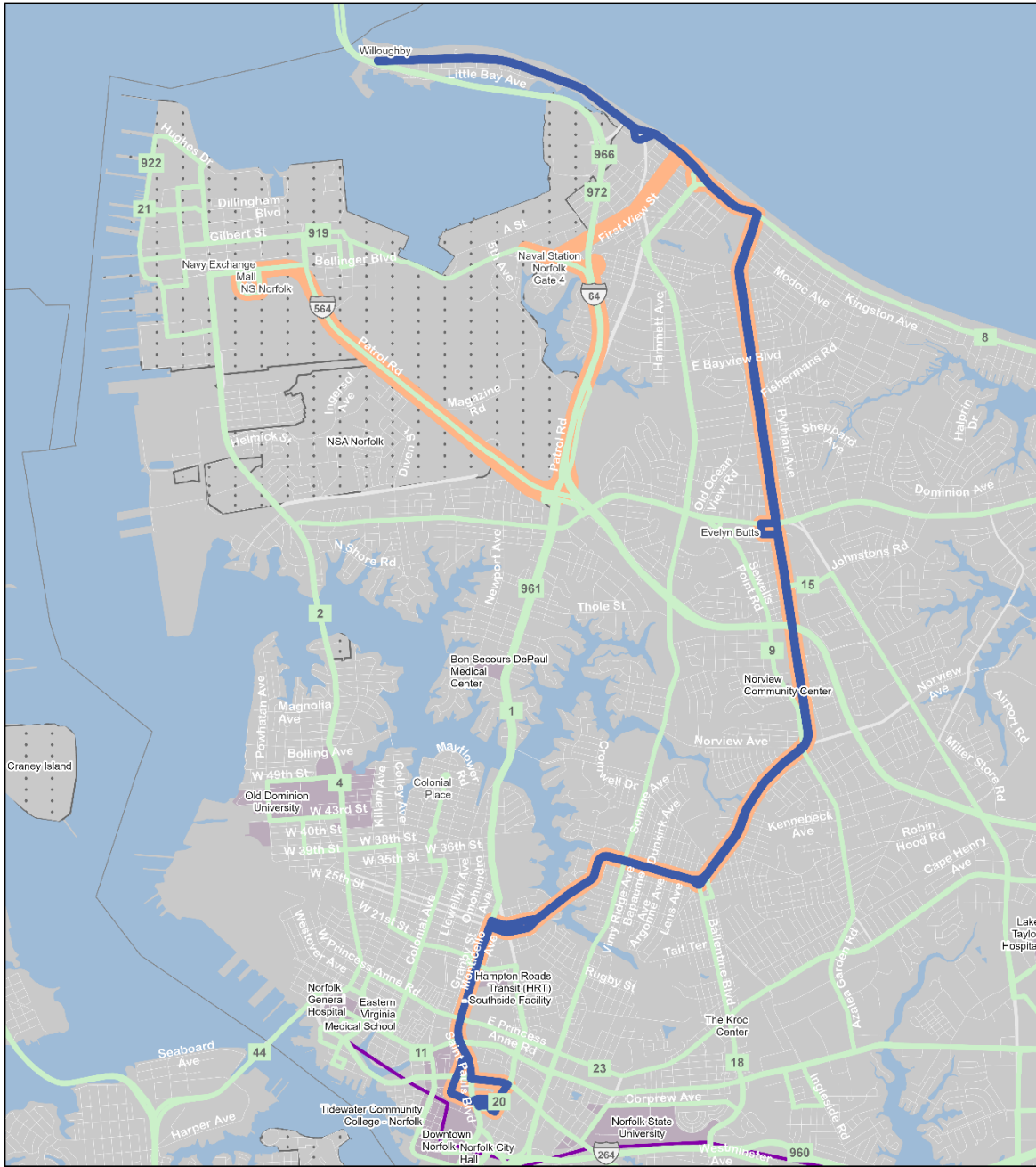
- The multimodal service index analysis from **Chapter 2, Section 2.2.2**, reveals areas served by Route 2 as major activity generators. Providing more direct service and shorter headways will improve this route and could attract more riders.
- The service levels for Route 2 meet the service standards defined for Regional Backbone routes.

Route 2

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	Route 2 will be realigned to travel on Hampton Boulevard, Redgate Avenue, Colley Avenue, and Olney Avenue in order to streamline the service through Downtown Norfolk. The realigned Route 2 will be more direct compared to its existing alignment. Route 2 will still serve Norfolk General Hospital via Olney Avenue and Fairfax Avenue. Route 23 will continue to serve the Fort Norfolk area where Route 2 will no longer serve. Route 2 will no longer service Virginia Beach Boulevard (covered by Route 11). Improve weekday span to 4:51 a.m. to 1:00 a.m. and Saturday and Sunday span to 5:11 a.m. to 1:00 a.m.. Improve weekday peak and midday headways to 15 minutes. Improve weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base headways to 30 minutes.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 3



Route 3

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 3

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Naval Station Norfolk	Downtown Norfolk / Evelyn T. Butts Avenue / Ocean View Avenue
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
	Weekday	4:51 a.m. - 1:27 a.m.	4:51 a.m. - 1:27 a.m.
	Saturday	5:21 a.m. - 1:27 a.m.	5:21 a.m. - 1:34 a.m.
	Sunday	5:59 a.m. - 12:31 p.m.	5:21 a.m. - 1:34 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	15 / 30
	PM Peak	15	15 / 30
	Evening	49	30 / 60
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. Existing Friday service ends later. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the Service Changes bullets.	

Service Changes

- The northern end of Route 3 will be realigned to serve Ocean View Avenue to Willoughby (covering a portion of the eliminated Route 5), providing a one-seat ride between Willoughby and Downtown Norfolk. Navy Exchange Mall will no longer be served via Route 3. To reach the Navy Exchange Mall passengers may transfer at Evelyn T. Butts to Route 21.
- On weekdays during the peak periods and midday period service will operate on a short turn between DNTC and Evelyn T. Butts every 15 minutes. During the early and evening time periods the short turn service will operate every half hour. Service to Willoughby will be hourly in the early and evening periods, and during the peak periods and midday it will increase to half hour headways. Hourly service will be offered the full length of the route from Willoughby to DNTC during the late night period. Route 3 will maintain its existing weekday span.
- Weekend service will operate every half hour between 6:00 a.m. and 9:00 p.m. from Willoughby to DNTC. In the non-base weekend period, service will operate every half hour on the short turn between Evelyn T. Butts and DNTC, and hourly along the full length of the route. In the early/late period hourly service will be offered on the full length of the route. Span of service on Sunday will be expanded to match Saturday.



Justification

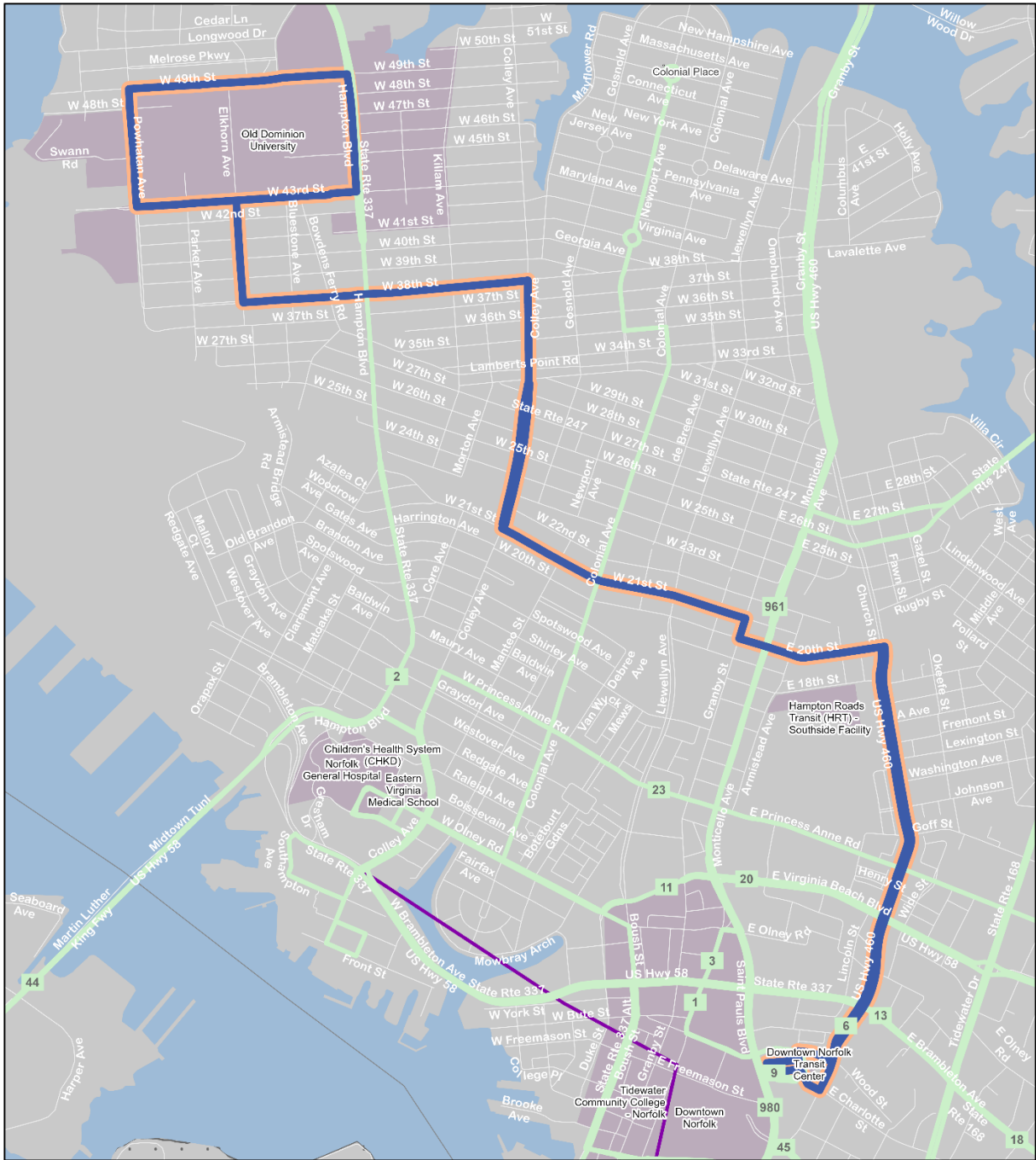
- Route 3's underperformance on on-time performance warrants a change in service in an effort to make the route operate more efficiently: its on-time performance is 59 percent, well short of the benchmark of 85 percent.
- Shortening headways on the weekend should encourage additional service usage.
- Service to Willoughby, which is currently offered every hour during weekday periods, will now be offered every half hour during the peak periods, which should help encourage additional service usage.
- The service levels for Route 3 meet the service standards defined for Regional Backbone routes.

Route 3

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	The northern end of Route 3 will be realigned to serve Ocean View Avenue to Willoughby (covering a portion of the eliminated Route 5), providing a one-seat ride between Willoughby and Downtown Norfolk. Navy Exchange Mall will no longer be served via Route 3. To reach the Navy Exchange Mall passengers may transfer at Evelyn T. Butts to Route 21. Improve Sunday span to 5:21 a.m. to 1:34 a.m.. Improve weekday midday headway on the short turn to 15 minutes. Improve weekday evening headway on the short turn to 30 minutes. Improve Sunday base headway to 30 minutes on the full route and Sunday non-base headway to 30 minutes on the short turn.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 4






Route 4

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 4

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Old Dominion University	Downtown Norfolk / Old Dominion University
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		6:00 a.m. - 10:51 p.m.	5:00 a.m. - 10:51 p.m.
Saturday		7:00 a.m. - 10:51 p.m.	7:00 a.m. - 10:51 p.m.
Sunday		8:00 a.m. - 10:49 p.m.	8:00 a.m. - 10:49 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	70	60
	Non-Base	70	60
	Early / Late	-	60

Service Changes

- No changes to service alignment.
- Route 4 span will be improved to begin at 5:00 a.m. on weekdays.
- Route 4 Sunday headways will be improved to 60-minute service instead of 70-minute service.



Justification

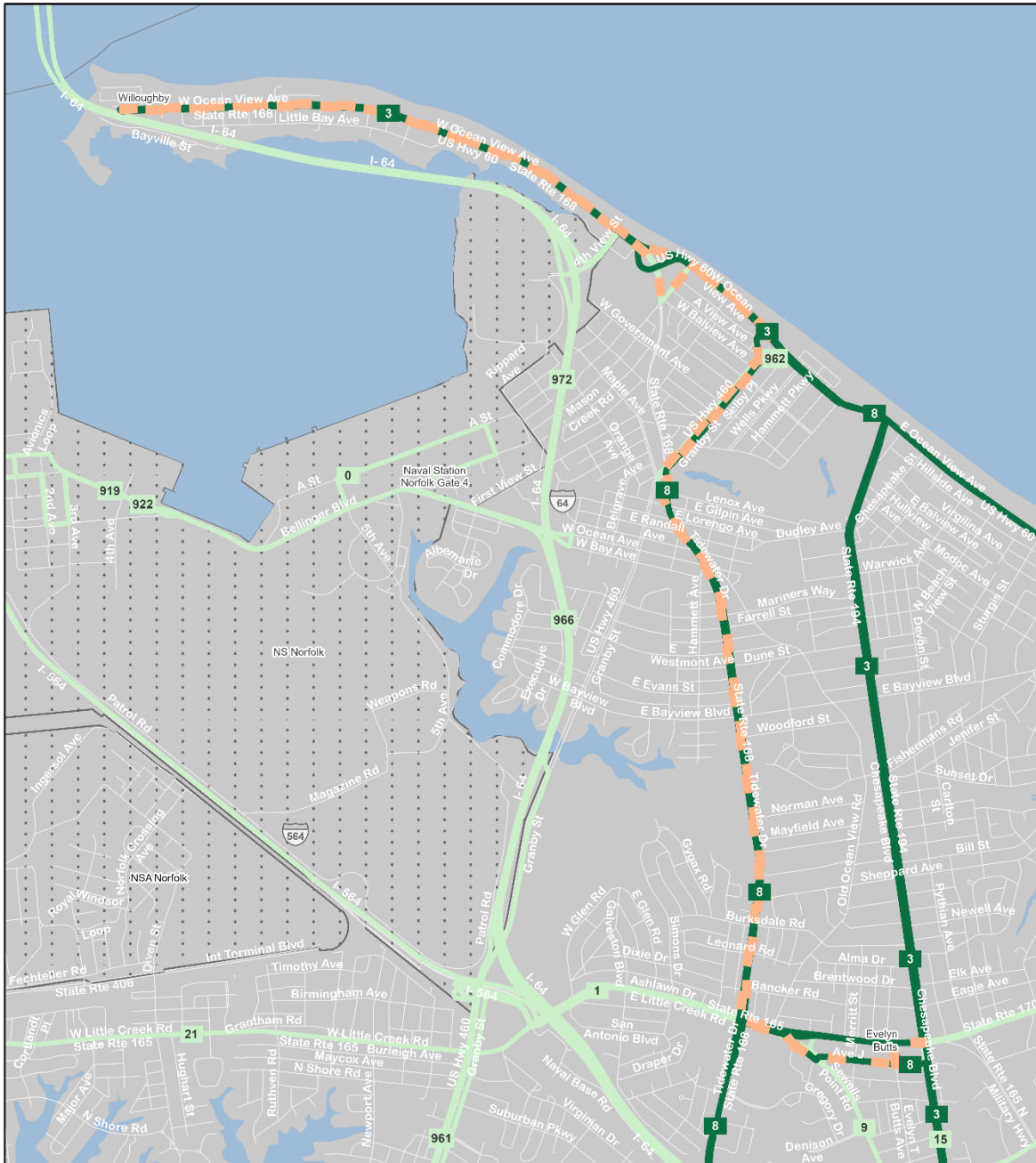
- The service levels for Route 4 meet the service standards defined for Coverage routes.

Route 4

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Improve weekday span to begin at 5:00 a.m.. Improve Sunday headways to 60 minutes.		✓	✓
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 5



Route 5

Focus Route

- Eliminated Route
- Routes providing replacement coverage

- Planned System
- Light Rail
- Ferry
- Military Base
- Activity Center
- City Boundary



Route 5

Service Classification	
-	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Willoughby / Evelyn T. Butts Avenue	-
Jurisdictions	Norfolk	-

Level of Service			
Span			
		Existing	Planned
Weekday		6:12 a.m. - 6:14 p.m.	-
Saturday		7:17 a.m. - 6:12 p.m.	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	-	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 5 will be eliminated. Service provided by Route 5 between Ocean View Avenue and Willoughby will be replaced by the extension of Route 3. The realigned Route 8 will provide service along Tidewater Drive between Little Creek Road and Ocean View Avenue.



Justification

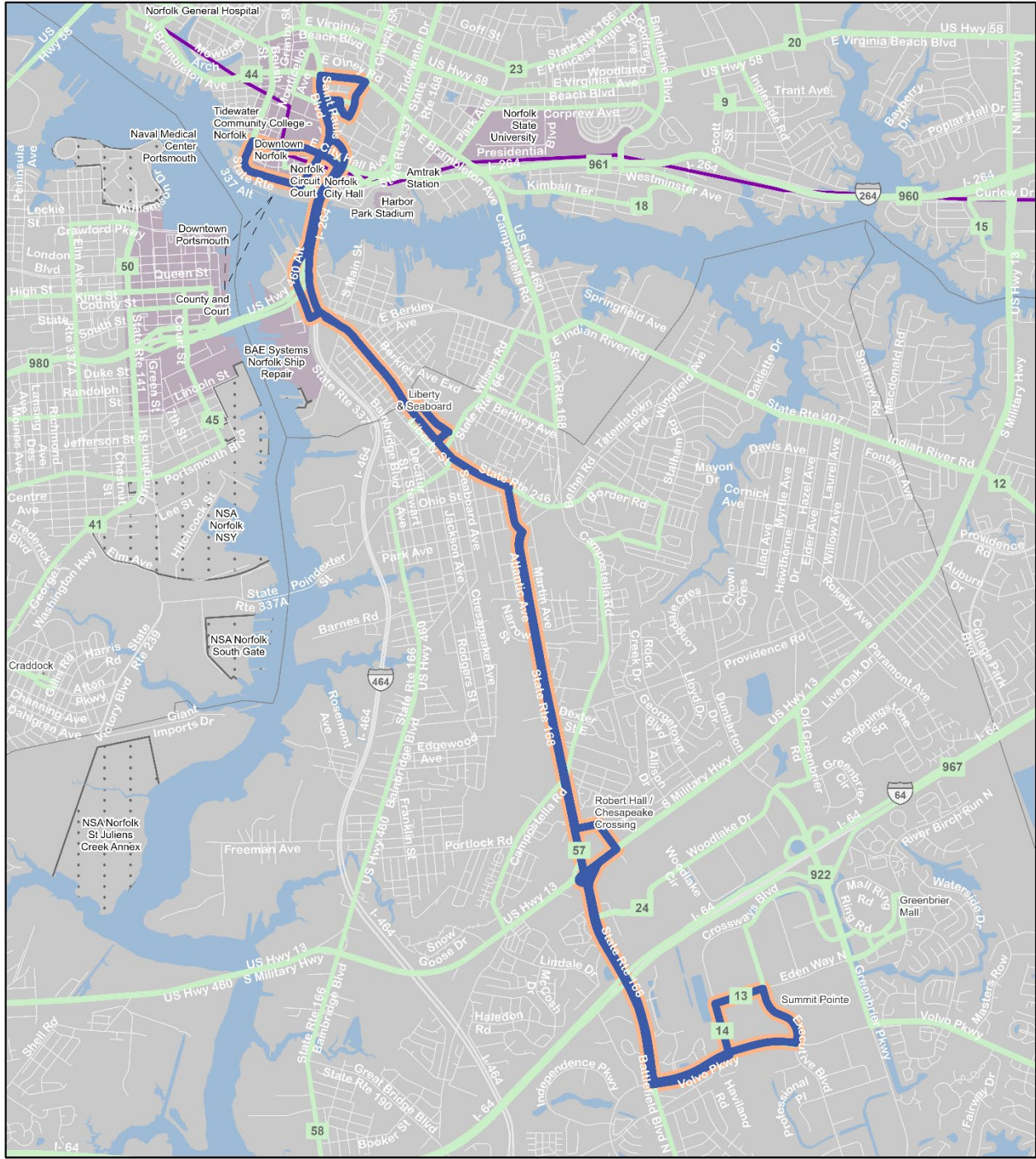
- Route 5 performs well based on the six Key Performance Indicators (results of this analysis are in **Chapter 2, Section 2.3**) and its service area would be better served by more direct connections provided by the combination with Route 3. The extension of Route 3 will provide service to Willoughby in a similar fashion as the current Route 5 service and will also provide a direct connection from Willoughby into Downtown Norfolk. Placing the Tidewater Drive segment onto Route 8 will improve connections and frequency of service available in that corridor.

Route 5

Improvements by Year


Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	Route 5 will be eliminated. Service provided by Route 5 between Ocean View Avenue and Willoughby will be replaced by the extension of Route 3. The realigned Route 8 will provide service along Tidewater Drive between Little Creek Road and Ocean View Avenue.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 6



Route 6

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 6

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / South Norfolk / Robert Hall Boulevard / Summit Pointe	Downtown Norfolk / South Norfolk / Robert Hall Boulevard / Summit Pointe
Jurisdictions	Chesapeake, Norfolk	Chesapeake, Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:30 a.m. - 11:50 p.m.	5:00 a.m. - 11:50 p.m.
Saturday		5:32 a.m. - 12:42 a.m.	5:32 a.m. - 12:42 a.m.
Sunday		5:54 a.m. - 6:38 p.m.	5:30 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	30 / 60
	Midday	60	30 / 60
	PM Peak	30	30 / 60
	Evening	53	60
	Late Night	60	60
Saturday	Base	60	30 / 60
	Non-Base	60	30 / 60
	Early / Late	60	60
Sunday	Base	60	30 / 60
	Non-Base	-	30 / 60
	Early / Late	-	60

Note	
This route's existing service operates with regular short turns. Existing Friday service ends later. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- No changes from existing service alignment (the alignment was recently updated in November 2021 to extend service to Summit Pointe and eliminate the deviations on State Street and Indian River Road and on Campostella Road).
- The weekday and Saturday spans of service will be maintained, although there will be more hours during which service is offered in Chesapeake south of Liberty & Seaboard and frequencies will be increased within Norfolk (see phasing table on next page for details). The Sunday span of service will be increased to 5:30 a.m. to 11:00 p.m..
- Half-hour service will be provided on the short turn (between DNTC and Liberty & Seaboard) during the weekday peak periods and weekday midday period, and on weekends during the base and non-base periods. Hourly service will be offered along the full length of the route between DNTC and Summit Pointe.



Justification

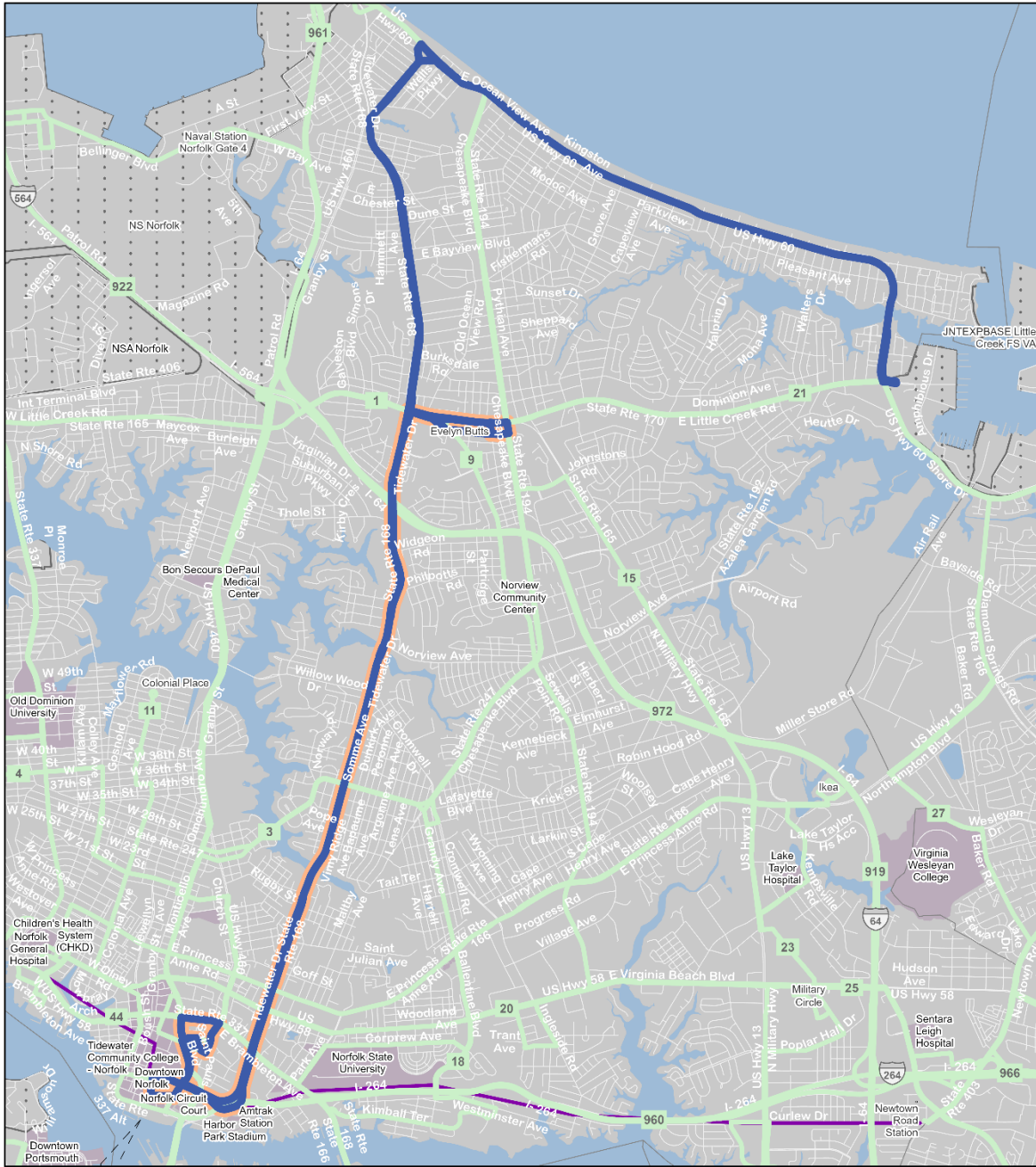
- Route 6 performs in the top half of HRT routes on passengers per revenue hour, in the top quarter for passengers per revenue mile, and in the top half for subsidy per passenger and farebox recovery ratio. This performance warrants increases in service and improved direct connections to induce even higher performance.
- The service levels for Route 6 within Norfolk will meet the service standards defined for Local Priority routes. However, the service levels within Chesapeake will not meet the service standards until further span and headway improvements are made outside the ten years of the plan (see table on next page).

Route 6

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	Weekday span improved to start at 5:00 a.m. on the full pattern (DNTC to Summit Pointe). The span of service on Sunday is expanded from 5:30 a.m. to 11:00 p.m. (which only operates on the short turn from DNTC to Liberty & Seaboard). Weekday midday headway improved to 30 minutes on the short turn. Saturday base and Sunday base period headway improved to 30 minutes only on the short turn.			
FY 2025	Introduce Sunday service in Chesapeake along the full length of the route (DNTC to Summit Pointe) from 8:00 a.m. to 7:15 p.m., operating hourly.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	Improve weekday span on the full pattern to end at 9:00 p.m..			
FY 2031	No changes.			
FY 2032	Improve weekday span on the full pattern to end at 10:00 p.m..			
Out Years	Improve span on the full pattern to end at 10:00 p.m. on Saturdays and end at 8:00 p.m. on Sundays. Improve weekday AM peak, midday, PM peak, Saturday base, and Sunday base headways on the full pattern to 30 minutes. Maintain service on the short turn in the late-night periods daily, and on Sundays in the early period.		✓	✓




Route 8






Route 8

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 8

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Evelyn T. Butts Avenue	Downtown Norfolk / Evelyn T. Butts Avenue / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
	Existing	Planned	
Weekday	5:18 a.m. - 12:14 a.m.	5:00 a.m. - 1:00 a.m.	
Saturday	5:42 a.m. - 12:44 a.m.	5:40 a.m. - 12:00 a.m.	
Sunday	6:40 a.m. - 8:57 p.m.	5:40 a.m. - 12:00 a.m.	
Headway			
	Existing	Planned	
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	42	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	-	30
	Early / Late	-	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 8 will be realigned, extending service to JEB Little Creek and covering a segment removed from Route 1. Heading north, after serving Evelyn T. Butts, Route 8 will head back west on Little Creek Boulevard, north on Tidewater Drive, and east on Ocean View Avenue and Shore Drive to JEB Little Creek.
- As a Regional Backbone route, on weekdays Route 8 will provide service between 5:00 a.m. and 1:00 a.m. and will operate with 15-minute service in the a.m. and PM peak periods and midday; half hour service in the early and evening periods; and hourly service in the late-night period.
- On weekends Route 8 will operate between 5:40 a.m. and 12:00 a.m., which is a slight decrease in hours on Saturday but a longer day of service on Sunday. Half hour service will be offered through much of the day, with hourly service being offered during the early and late-night periods.



Justification

- Overall, Route 8 performs very well based on the six Key Performance Indicators (KPI). Its farebox recovery ratio is over 25 percent and passengers per revenue mile is 22.
- Increasing weekday peak period and midday service to 15-minute headways and extending the route to cover more connections should help increase service utilization.
- The service levels for Route 8 meet the service standards defined for Regional Backbone routes.

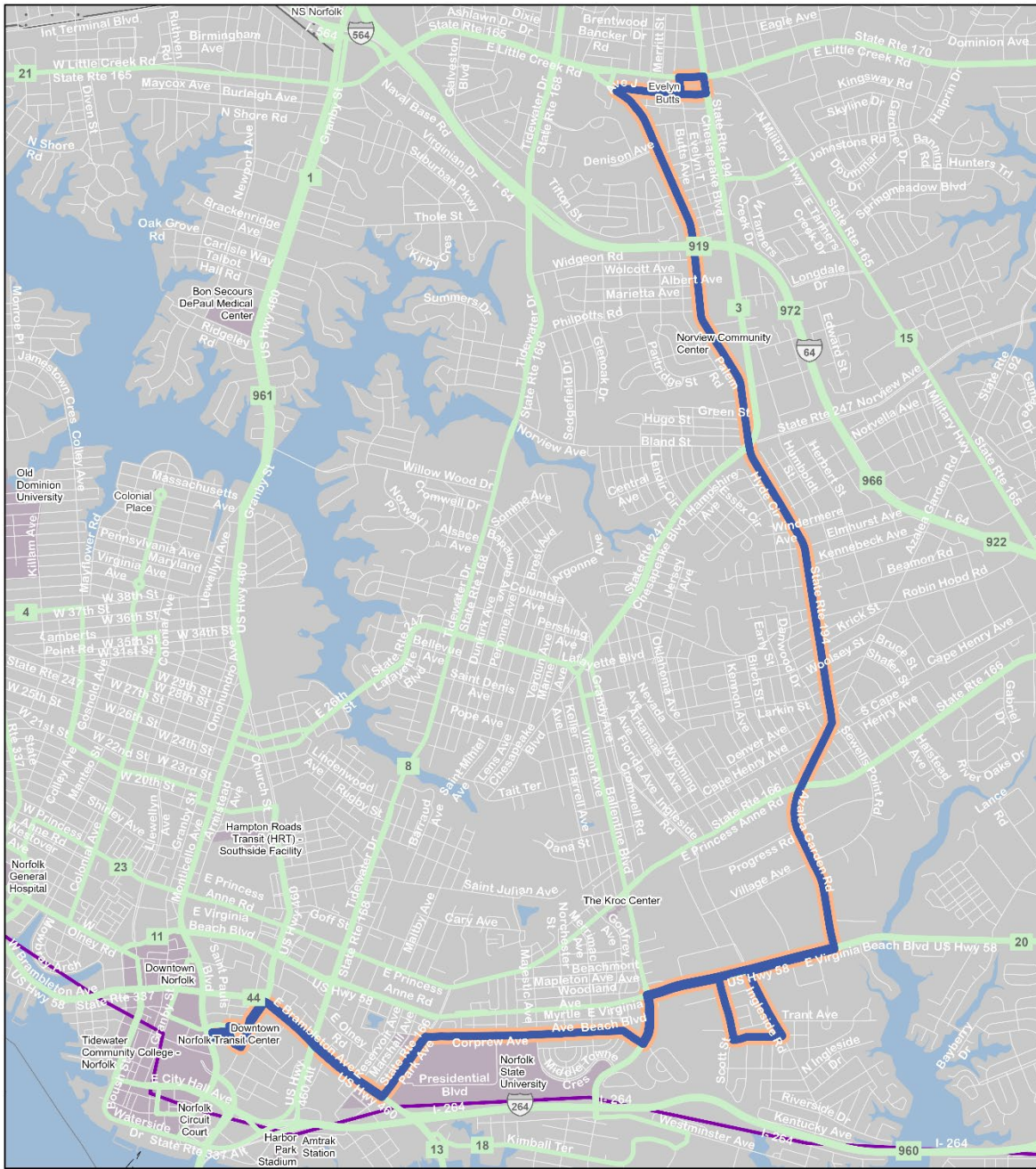
Route 8

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 8 will be realigned, extending service to JEB Little Creek and covering a segment removed from Route 1. Heading north, after serving Evelyn T. Butts, Route 8 will head back west on Little Creek Boulevard, north on Tidewater Drive, and east on Ocean View Avenue and Shore Drive to JEB Little Creek. Existing span and headways are maintained.	✓		
FY 2025	Improve weekday span to 5:00 a.m. to 1:00 a.m., change Saturday span to 5:40 a.m. to 12:00 a.m., and improve Sunday span to 5:40 a.m. to 12:00 a.m.. Improve weekday peak and weekday midday headways to 15 minutes. Improve weekday evening, Sunday base, and Sunday non-base headways to 30 minutes.		✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			



Route 9



Route 9

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

— Light Rail

--- Ferry

Military Base

Activity Center

City Boundary



Route 9

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Sewells Point Road	Downtown Norfolk / Sewells Point Road
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:48 a.m. - 11:11 p.m.	5:00 a.m. - 12:11 a.m.
Saturday		5:32 a.m. - 12:12 a.m.	5:32 a.m. - 12:12 a.m.
Sunday		-	8:00 a.m. - 7:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	30 until 8:00 p.m., 60 after	30 until 8:00 p.m., 60 after
	Late Night	60	60
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Note	
Existing Friday service ends later.	

Service Changes

- No changes from existing service alignment.
- Weekday span will start earlier at 5:00 a.m.. Service on weekdays will operate with existing headways.
- Saturday span will remain the same as existing, with hourly service as in existing.
- Sunday service will be introduced with hourly service operating from 8:00 a.m. - 7:00 p.m..



Justification

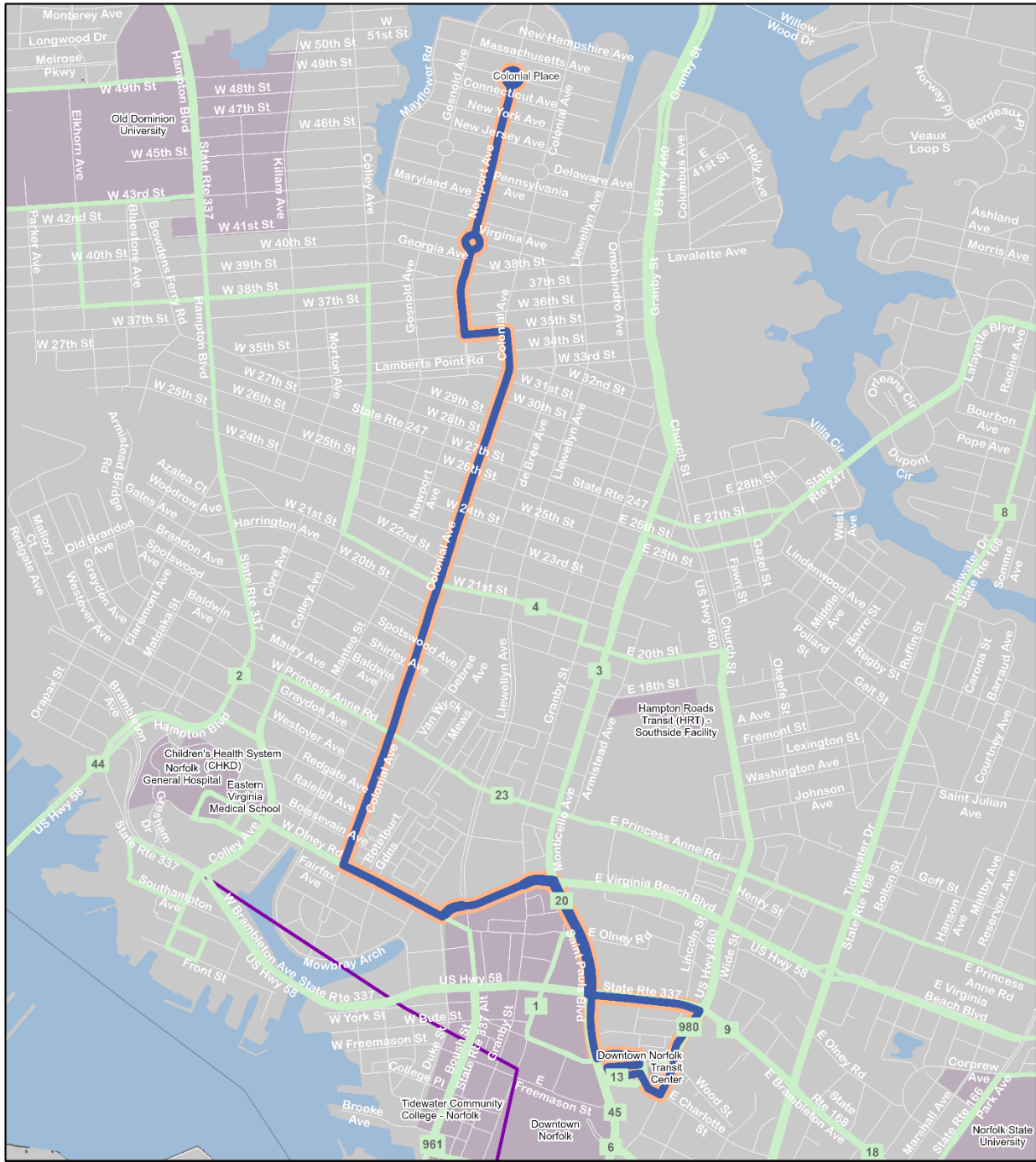
- Route 9's performance is average, yet it provides important connections within Norfolk, therefore the alignment and level of service will be kept as existing for weekdays and Saturdays (slight change of weekday span beginning at 5:00 a.m. in order to meet standards).
- In order to meet the service design standards, Sunday service should be initiated. The service levels for Route 9 meet the service standards defined for Coverage routes.

Route 9

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Improve weekday span to begin at 5:00 a.m.. Sunday service is introduced from 8:00 a.m. to 7:00 p.m., operated hourly.		✓	✓
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 11






Route 11

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 11

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Colonial Place	Downtown Norfolk / Colonial Place
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		6:05 a.m. - 6:30 p.m.	5:00 a.m. - 7:00 p.m.
Saturday		6:05 a.m. - 6:27 p.m.	6:05 a.m. - 7:00 p.m.
Sunday		8:40 a.m. - 5:39 p.m.	8:00 a.m. - 7:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-
Sunday	Base	60	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- No changes from existing service alignment or headways.
- Span increases are needed in order for this route to reach the service design standards: weekday span will be increased to 5:00 a.m. to 7:00 p.m., Saturday span will be increased to end at 7:00 p.m., and Sunday span will be increased from 8:00 a.m. to 7:00 p.m..



Justification

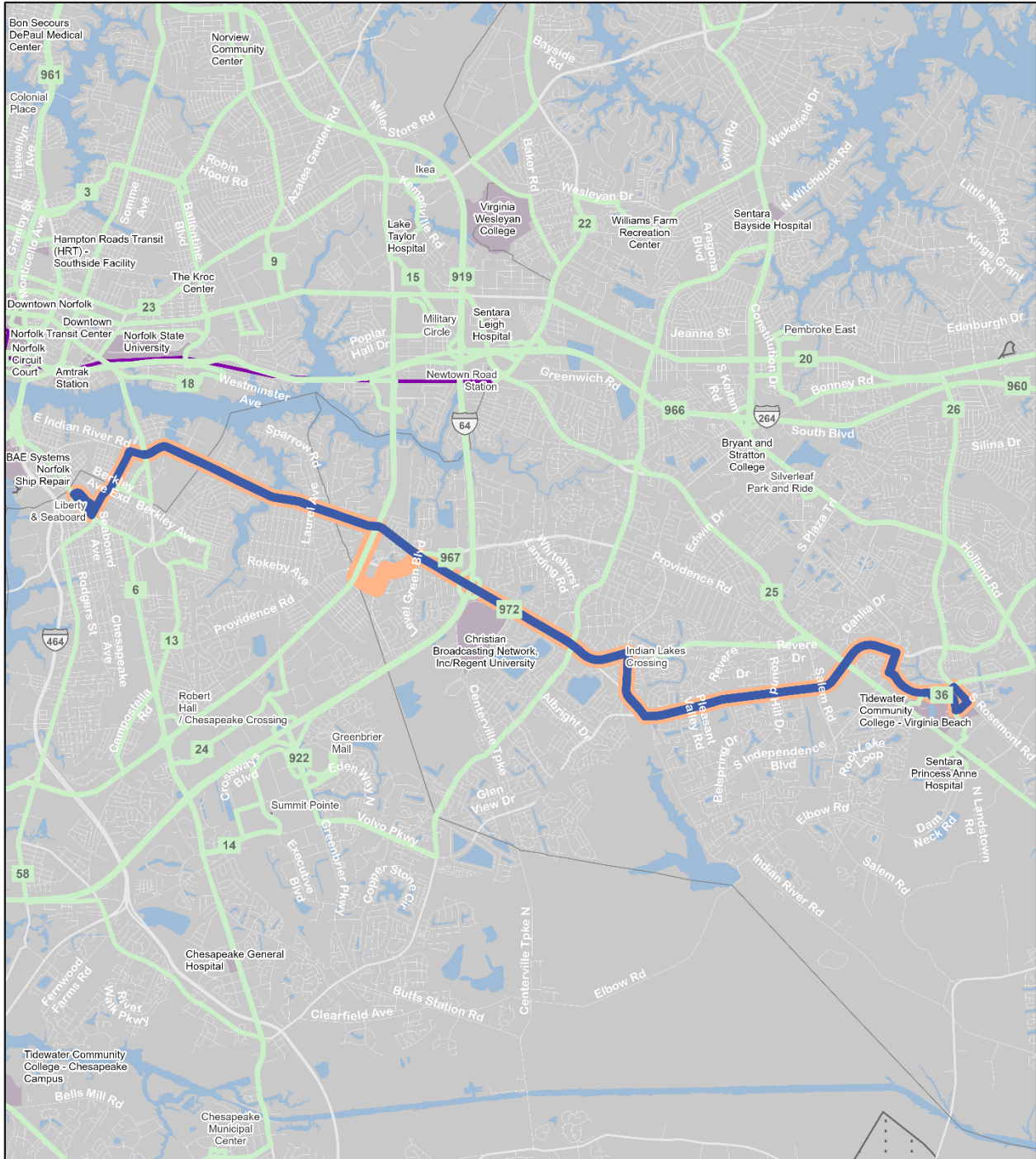
- While Route 11 is a lower performing route, maintaining its current alignment and levels of service will help provide important north-south connections within Norfolk, especially in the 21st Street area.
- The service levels for Route 11 meet the service standards defined for Coverage routes.

Route 11

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	Improve weekday span to 5:00 a.m. to 7:00 p.m., Saturday span to 6:05 a.m. to 7:00 p.m., and Sunday span to 8:00 a.m. to 7:00 p.m..		✓	
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 12






Route 12

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 12

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	South Norfolk / TCC Virginia Beach	South Norfolk / TCC Virginia Beach
Jurisdictions	Chesapeake, Norfolk, Virginia Beach	Chesapeake, Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:48 a.m. - 9:35 p.m.	5:00 a.m. - 9:35 p.m.
Saturday		5:48 a.m. - 9:35 p.m.	5:48 a.m. - 9:35 p.m.
Sunday		-	8:00 a.m. - 6:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	-	60
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 12 will be realigned to remain on Indian River Road, eliminating the current deviation that operates on Military Highway, Auburn Drive, College Park Boulevard, and Providence Road.
- On weekdays service will start earlier at 5:00 a.m. and operate every 30-minutes from 6:00 a.m. to 6:00 p.m., with hourly service before and after.
- Saturday service will remain the same as existing.
- Sunday service will be introduced to operate from 8:00 a.m. to 6:00 p.m..



Justification

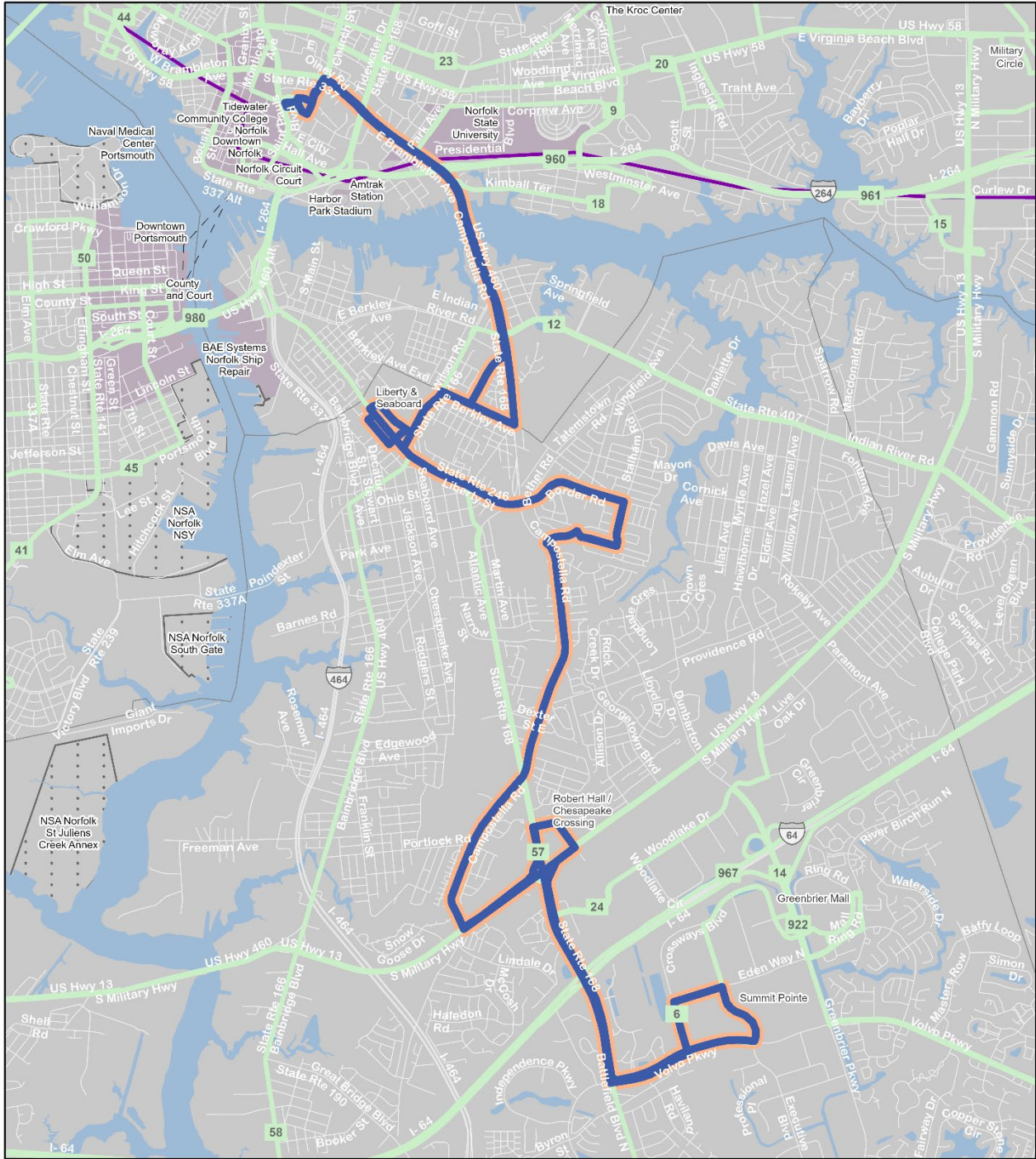
- Route 12 service is one of the higher-performing routes within the HRT system. Shortening headways on Route 12 will provide better transfer opportunities between this route and routes which provide north-south connections, enhancing regional connectivity.
- This route improvement addresses an identified gap in all-day transit demand between Virginia Beach, South Norfolk, and Chesapeake with higher levels of midday service than these areas currently experience. This also addresses a gap in peak service coverage with higher levels of service in the peak periods.
- Removing the slight deviation and allowing the service to remain on Indian River Road will improve the route directness, which will help to improve on time performance and shorten overall trip times, which are two attractive transit features that will help to attract additional riders.
- The service levels for Route 12 will meet the service standards defined for Local Priority routes once the span and headway improvements are made, which will not occur within the ten years of the plan (see table on next page).

Route 12

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	Route 12 will be realigned to remain on Indian River Road, eliminating the current deviation that operates on Military Highway, Auburn Drive, College Park Boulevard, and Providence Road. Weekday span improved to start at 5:00 a.m..	✓		
FY 2026	No changes.			
FY 2027	Introduce Sunday service from 8:00 a.m. to 6:00 p.m., operating hourly.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	Improve weekday peak headways to 30 minutes.			
FY 2031	No changes.			
FY 2032	Improve weekday midday headway to 30 minutes.			
Out Years	Improve weekday and Saturday span to end at 11:00 p.m.. Improve Sunday span to 7:00 a.m. to 11:00 p.m.. Improve weekday early, Saturday base, and Sunday base headways to 30 minutes. Improve weekday evening headway to 30 minutes until 8:00 p.m..		✓	✓




Route 13



Route 13

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 13

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Robert Hall Boulevard / Summit Pointe	Downtown Norfolk / Robert Hall Boulevard / Summit Pointe
Jurisdictions	Chesapeake, Norfolk	Chesapeake, Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		4:48 a.m. - 12:43 a.m.	4:48 a.m. - 12:43 a.m.
Saturday		5:26 a.m. - 12:43 a.m.	5:26 a.m. - 12:43 a.m.
Sunday		5:52 a.m. - 10:36 p.m.	5:30 a.m. - 11:48 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	30
	AM Peak	30	30 / 60
	Midday	60	30 / 60
	PM Peak	30	30 / 60
	Evening	52	30 / 60
	Late Night	60	60
Saturday	Base	60	30 / 60
	Non-Base	60	30 / 60
	Early / Late	60	60
Sunday	Base	60	30 / 60
	Non-Base	60	60
	Early / Late	-	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- No changes from existing service alignment (the alignment was recently updated in November 2021 to extend service to Summit Pointe, realign service in the Border Road and Stalham Road area, and serve Campostella Road between Atlantic Avenue and Military Highway).
- The current weekday span of service will be maintained. Service along the full length of the route from DNTC to Summit Pointe will be offered from start of service until 8:00 p.m., after which service will be offered only between Liberty and Seaboard and Robert Hall.
- On weekdays additional service will be offered midday to achieve 30-minute headways on the short turn between DNTC and Liberty & Seaboard. This same increase of service will be provided on the weekends during the base period and on Saturday during the non-base period.
- The Saturday span of service will remain the same as existing. The Sunday span of service will be extended to operate between 5:30 a.m. to 11:48 p.m. on the short turn; between 8:00 a.m. and 6:00 p.m. Sunday service will operate the full length of the route.
- Other improvements are described in the table on the next page in the "out years" which currently cannot be accommodated within the ten years of the plan.



Justification

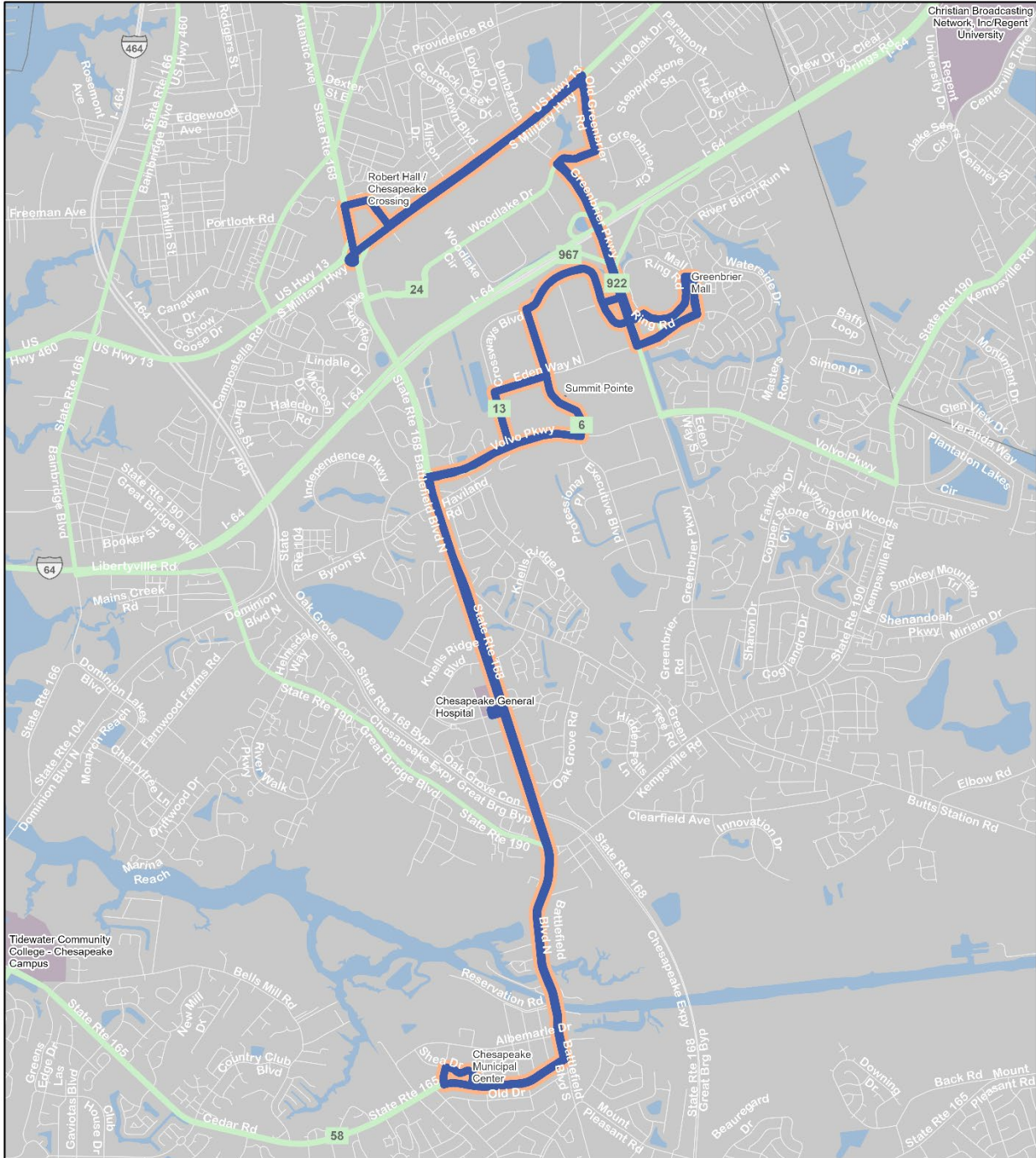
- Route 13 performs well on the six Key Performance Indicators (KPI) and warrants increases of service as a result. Improving headways on weekdays in the midday time period will address an identified gap in all-day transit demand from Indian River in South Norfolk to Chesapeake Crossing.
- The service levels for Route 13 within Norfolk will meet the service standards defined for Local Priority routes. However, the service levels within Chesapeake will not meet the service standards until further span and headway improvements are made outside the ten years of the plan (see table on next page).

Route 13

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	Service along the full alignment (DNTP to Summit Pointe) will begin earlier on weekdays, at 4:48 a.m.. This will provide 30-minute service along the whole length of the route during the weekday early period.			
FY 2025	Improve Sunday span to 5:30 a.m. to 11:48 p.m. on the short turn. On the short turn, improve weekday midday, Saturday base, and Sunday base headways to 30 minutes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Introduce Sunday service on the full length of the route (DNTP to Summit Pointe) from 8:00 a.m. to 6:00 p.m., operating hourly (previously service on Sunday did not go south of Liberty & Seaboard).			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	On the full route (DNTP to Summit Pointe), improve headways to 30 minutes during weekday peak, weekday midday, Saturday base, and Sunday base periods. Extend full route span to 10:00 p.m. on weekdays and Saturdays, and to 5:30 a.m. to 8:00 p.m. on Sundays. Maintain late night service on the short turn.		✓	✓

Route 14



Route 14

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 14

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Robert Hall Boulevard / Greenbrier Mall / Summit Pointe / Municipal Center	Robert Hall Boulevard / Greenbrier Mall / Summit Pointe / Municipal Center
Jurisdictions	Chesapeake	Chesapeake

Level of Service			
Span			
		Existing	Planned
Weekday		6:17 a.m. - 7:09 p.m.	5:00 a.m. - 7:30 p.m.
Saturday		6:17 a.m. - 7:12 p.m.	6:17 a.m. - 8:12 p.m.
Sunday		-	8:00 a.m. - 6:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- Route 14 was recently realigned in November 2021 to cover the eliminated Route 55; segments eliminated from Route 14 are now covered by the realigned Routes 6, 13, and 58.
- A new Veterans Affairs (VA) Clinic is scheduled to open in Fall 2024 near Battlefield Blvd at the Chesapeake Regional Medical Center campus off Knells Ridge Blvd. Once this facility is open, Route 14 will be deviated onto Knells Ridge Blvd to serve the facility.
- The weekday span of service will be extended to operate from 5:00 a.m. to 7:30 p.m.. One additional hour of service will be added to the Saturday span, in order for Route 14 to cover Route 55's existing span. Sunday service will be introduced, operating from 8:00 a.m. to 6:00 p.m..
- All service on Route 14 will be hourly.



Justification

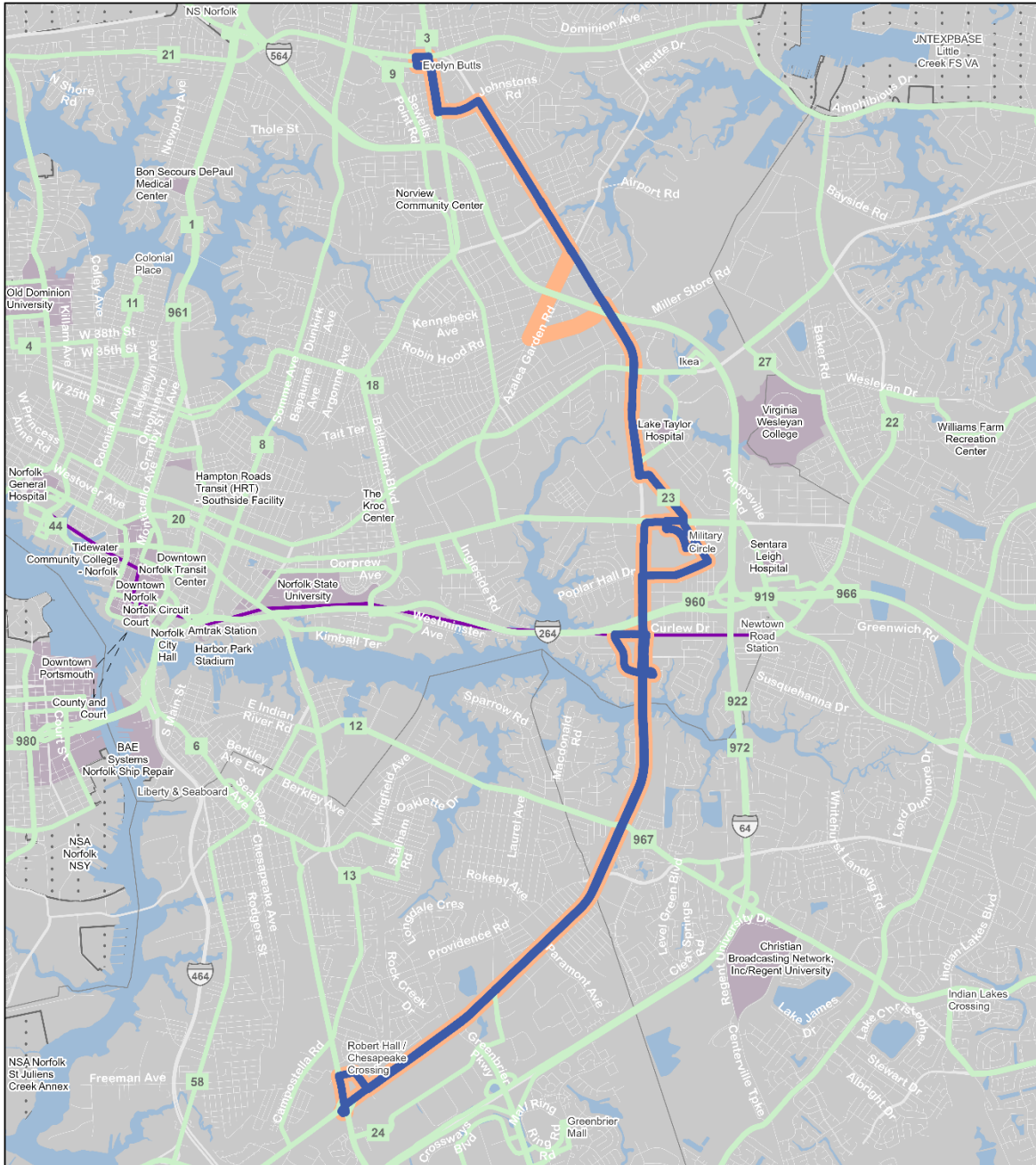
- The new VA Clinic will be a regional attractor and many of the visitors will use transit. Route 14 will provide an important transit connection to the facility.
- The service levels for Route 14 will meet the service standards defined for Coverage routes once all span improvements can be made (some of which are outside the ten years of the plan).

Route 14

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to end at 7:30 p.m. and improve Saturday span to end at 8:12 p.m., in order to cover the existing Route 55 span.			
FY 2024	No changes.			
FY 2025	Improve weekday span to start at 5:00 a.m. and Saturday span to start at 6:17 a.m.. Route 14 will deviate off of Battlefield Boulevard at Medical Parkway to serve the new VA facility off of Knell's Ridge Boulevard, scheduled to open in Fall 2024.	✓		
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	Introduce Sunday service from 8:00 a.m. - 6:00 p.m., operated hourly.			✓
FY 2032	No changes.			
Out Years	Improve Sunday span to 6:20 a.m. - 7:00 p.m..		✓	

Route 15



Route 15

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 15

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Robert Hall Boulevard / Evelyn T. Butts Avenue	Robert Hall Boulevard / Evelyn T. Butts Avenue
Jurisdictions	Chesapeake, Norfolk, Virginia Beach	Chesapeake, Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		4:48 a.m. - 1:18 a.m.	5:00 a.m. - 1:15 a.m.
Saturday		5:18 a.m. - 12:48 a.m.	5:18 a.m. - 12:00 a.m.
Sunday		6:46 a.m. - 12:42 a.m.	5:18 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15 / 30
	PM Peak	15	15
	Evening	30	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- Route 15's alignment was recently updated in November 2021 to no longer serve Greenbrier Mall; all trips to Chesapeake terminate at Robert Hall.
- Route 15 will be streamlined along Military Highway by eliminating the diversion onto Azalea Garden Road and Robin Hood Road.
- Short turn service will be eliminated on Route 15 so that the target headways can be provided across the whole length of the route (a short turn will be in effect during the weekday midday period in order to provide new 15-minute midday service within the city of Norfolk between Evelyn T. Butts and the Military Highway light rail station).
- Weekend span will be shortened to end at 12:00 a.m.. Sunday service will begin earlier, at 5:18 a.m., to match Saturday service. On the weekends half hour headways will be offered from 6:00 a.m. to 9:00 p.m. both days, which is an improvement over hourly service during most of those times.



Justification

- Route 15 performs well on the six Key Performance Indicators (results of this analysis are in **Chapter 2, Section 2.3**), especially the passengers per hour measures—19, well above the Southside average of 14. Farebox recovery ratio and subsidy per passenger are within the top quarter of all routes. Route 15's performance indicates a demand for this service and warrants increases in service.
- The improvements will enhance frequent connections between Norfolk and Chesapeake and increase the attractiveness of this service.
- The service levels for Route 15 meet the service standards defined for Regional Backbone routes.

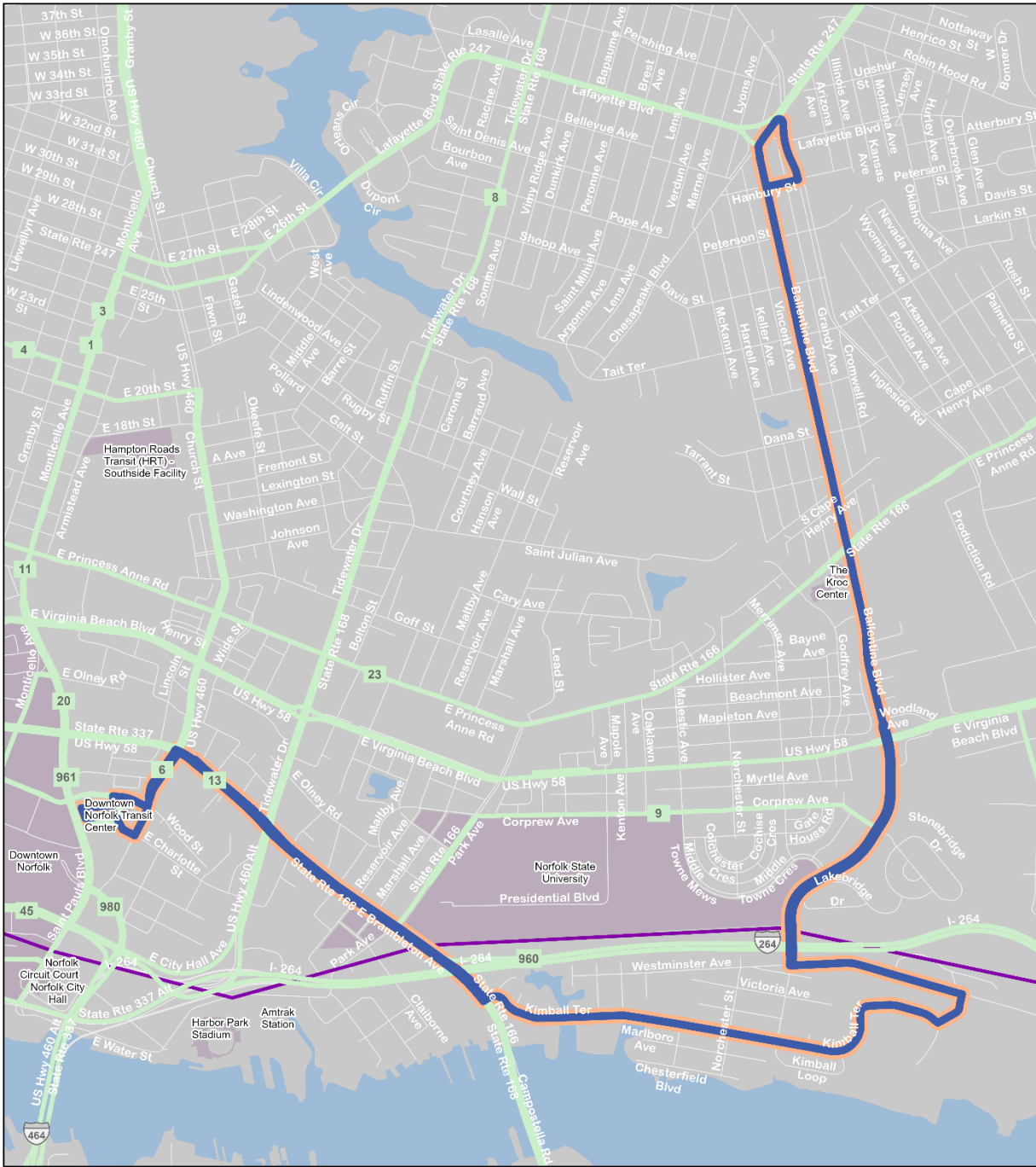
Route 15

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	In Norfolk, Route 15 will be streamlined along Military Highway by eliminating the diversion onto Azalea Garden Road and Robin Hood Road. Improve weekday span to 5:00 a.m. to 1:15 a.m.. Improve weekday peak headways to offer 15-minute service along the full length of the route. Improve weekday midday headway to 15 minutes on the short turn within the city of Norfolk. Saturday and Sunday service operate from 5:18 a.m. to 12:00 a.m. with 30 minute headways in the base and non-base periods.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			



Route 18



Route 18

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 18

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Ballentine Boulevard	Downtown Norfolk / Ballentine Boulevard
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:42 a.m. - 10:38 p.m.	5:00 a.m. - 10:38 p.m.
Saturday		6:16 a.m. - 10:18 p.m.	6:16 a.m. - 10:18 p.m.
Sunday		-	8:00 a.m. - 7:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- No changes from existing service alignment.
- Weekday service will begin earlier at 5:00 a.m. and operate hourly.
- Saturday service will remain the same as existing.
- Sunday service will be introduced to operate from 8:00 a.m. to 7:00 p.m., hourly.



Justification

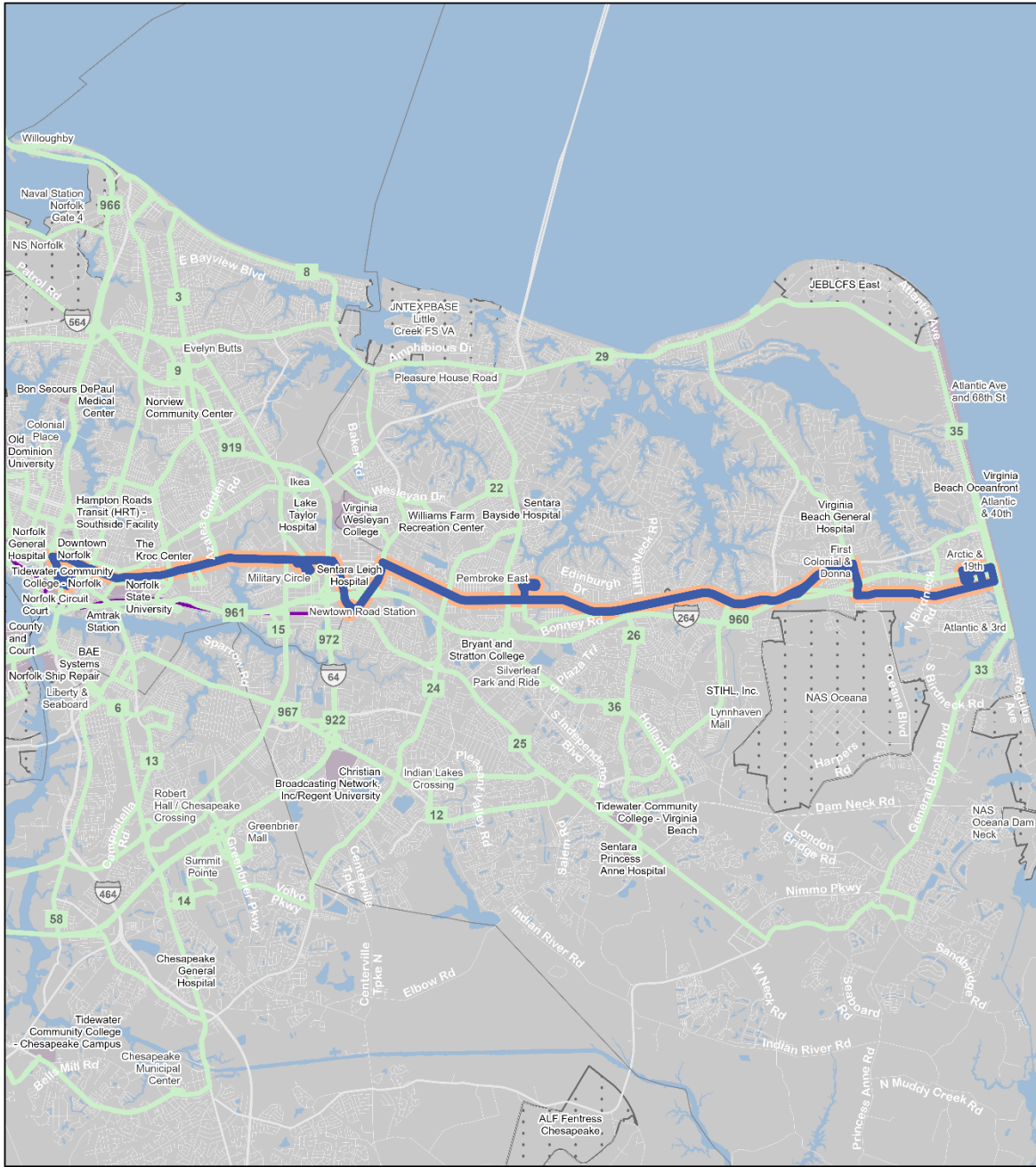
- Route 18's performance is low compared to other routes within the HRT system, but because it provides important connections within Norfolk, the alignment and level of service will be kept mostly the same as existing for weekdays and Saturdays.
- To meet the service design standards, Sunday service will be added.
- The service levels for Route 18 meet the service standards defined for Coverage routes.

Route 18

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Improve weekday span to begin at 5:00 a.m.. Introduce Sunday service from 8:00 a.m. to 7:00 p.m., operated hourly.		✓	✓
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 20






Route 20

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 20

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Virginia Beach Oceanfront	Downtown Norfolk / Virginia Beach Oceanfront
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		4:52 a.m. - 1:15 a.m.	4:52 a.m. - 1:15 a.m.
Saturday		5:22 a.m. - 1:14 a.m.	5:00 a.m. - 1:14 a.m.
Sunday		6:23 a.m. - 1:13 a.m.	5:00 a.m. - 1:14 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15
	PM Peak	15	15
	Evening	46	30 until 7:00 p.m., 60 after
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	30	15
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- The Route 20 alignment was recently updated in November 2021 to serve Newtown Road light rail station via Kempsville Road and Newtown Road instead of going up and down Kempsville Road in both directions.
- Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.
- Short turns on this route will be eliminated, which will help to provide consistent frequency of service across the entire route's alignment.
- The current weekday span will be maintained, operating between 4:52 a.m. and 1:15 a.m., with service provided every 15 minutes during the AM peak, midday, and PM peak periods across the whole length of the route.
- Saturday service will be offered between 5:00 a.m. and 1:14 a.m. with 15-minute service being offered from 8:00 a.m. to 6:00 p.m.. Sunday service will be increased to match Saturday levels of service.



Justification

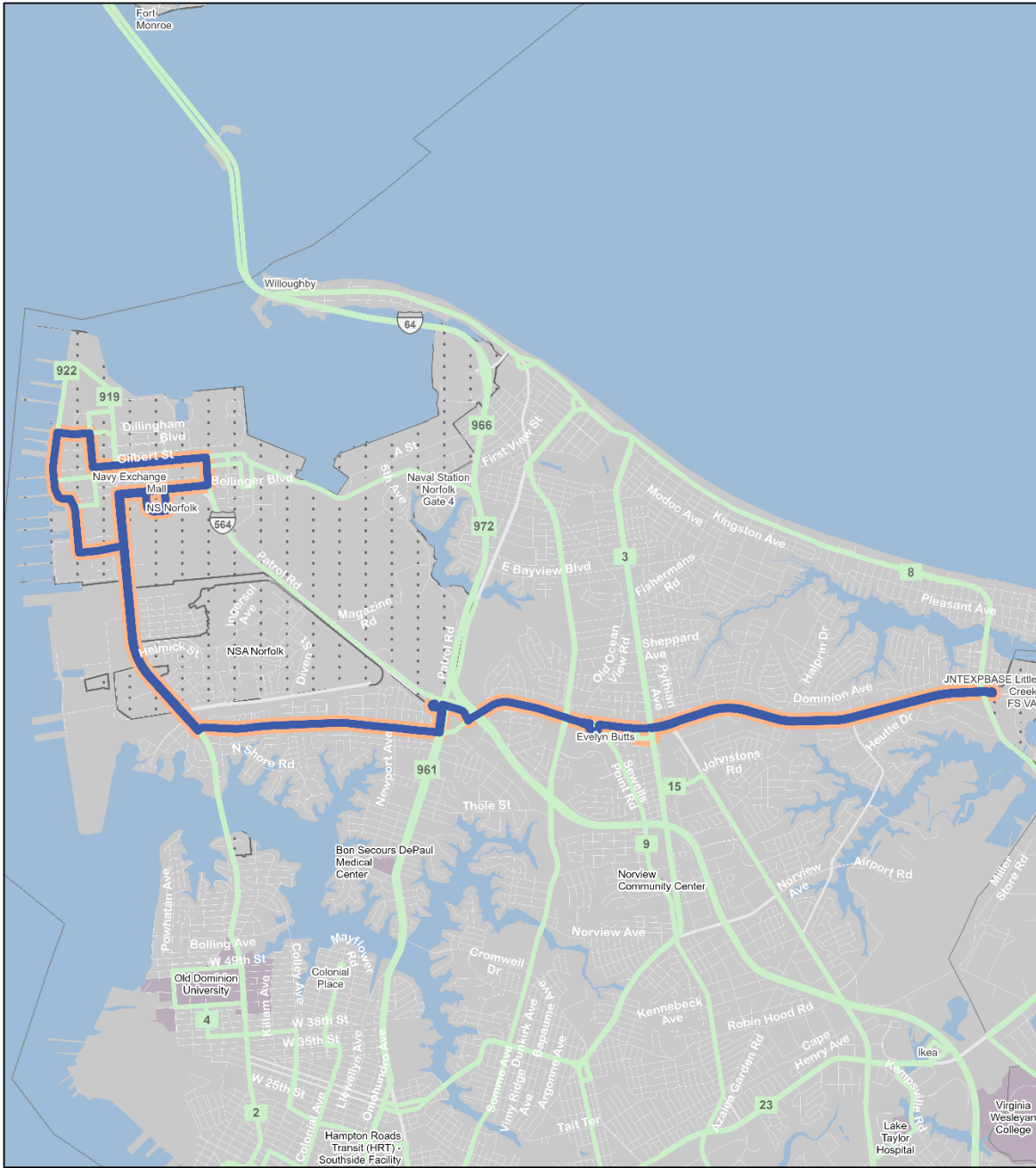
- Route 20 performs well on the six Key Performance Indicators (KPI) and is one of the highest performing routes in the system. Planned improvements will eliminate short turns on this route, providing continuous high-frequency service between Virginia Beach and Norfolk during the peak periods and providing consistent service across the whole length of the route in the other periods.
- This high-frequency Regional Backbone service will provide an enhanced regional connection between Downtown Norfolk and Virginia Beach, addressing a peak coverage demand gap in Virginia Beach.
- The service levels for Route 20 meet the service standards defined for Regional Backbone routes.

Route 20

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	(This change will technically occur towards the end of FY 2022) Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.	✓		
FY 2024	Improve Saturday and Sunday span to begin at 5:00 a.m.. Improve weekday midday, Saturday base, and Sunday base headways to 15 minutes. Improve Sunday non-base headway to 30 minutes. Short turns on Route 20 are eliminated, offering full service along the entire length of the route.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 21



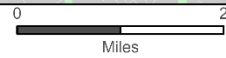
Route 21

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 21

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Naval Station Norfolk (peak hours only) / Navy Exchange Mall / Joint Expeditionary Base Little Creek	Navy Exchange Mall / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
	Weekday	5:11 a.m. - 1:17 a.m.	5:00 a.m. - 1:00 a.m.
	Saturday	5:12 a.m. - 1:38 a.m.	5:00 a.m. - 1:00 a.m.
	Sunday	6:43 a.m. - 1:38 a.m.	5:00 a.m. - 1:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	43	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Service Changes

- In November 2021 Route 21 was modified to operate through Naval Station Norfolk only during the weekday peak periods. During other service periods, all trips will go directly to Navy Exchange Mall and not deviate through the naval base, no longer serving the B Avenue and Virginia Avenue stop.
- On weekdays service will be increased to every 15 minutes in the peak periods and during the midday and evening service will be improved to every half hour.
- Weekday and weekend service will be offered between 5:00 a.m. and 1:00 a.m.. On Saturdays there will be half hour service through much of the day. Sunday service will be increased to match Saturday levels.
- HRT has applied for a TRIP grant from DRPT to fund potential internal service on Naval Station Norfolk as an off-shoot of Route 21, similar to a circulator-type of service. If the grant application is successful, Route 21 would be modified in a future TSP update for its western end to operate a service pattern on the base to better connect to key destinations. The circulator-type service would operate on weekdays between 5:00 a.m. and 6:00 p.m. with 15-minute headways during the a.m. and PM peak periods and 30-minute headways during the off-peak.



Justification

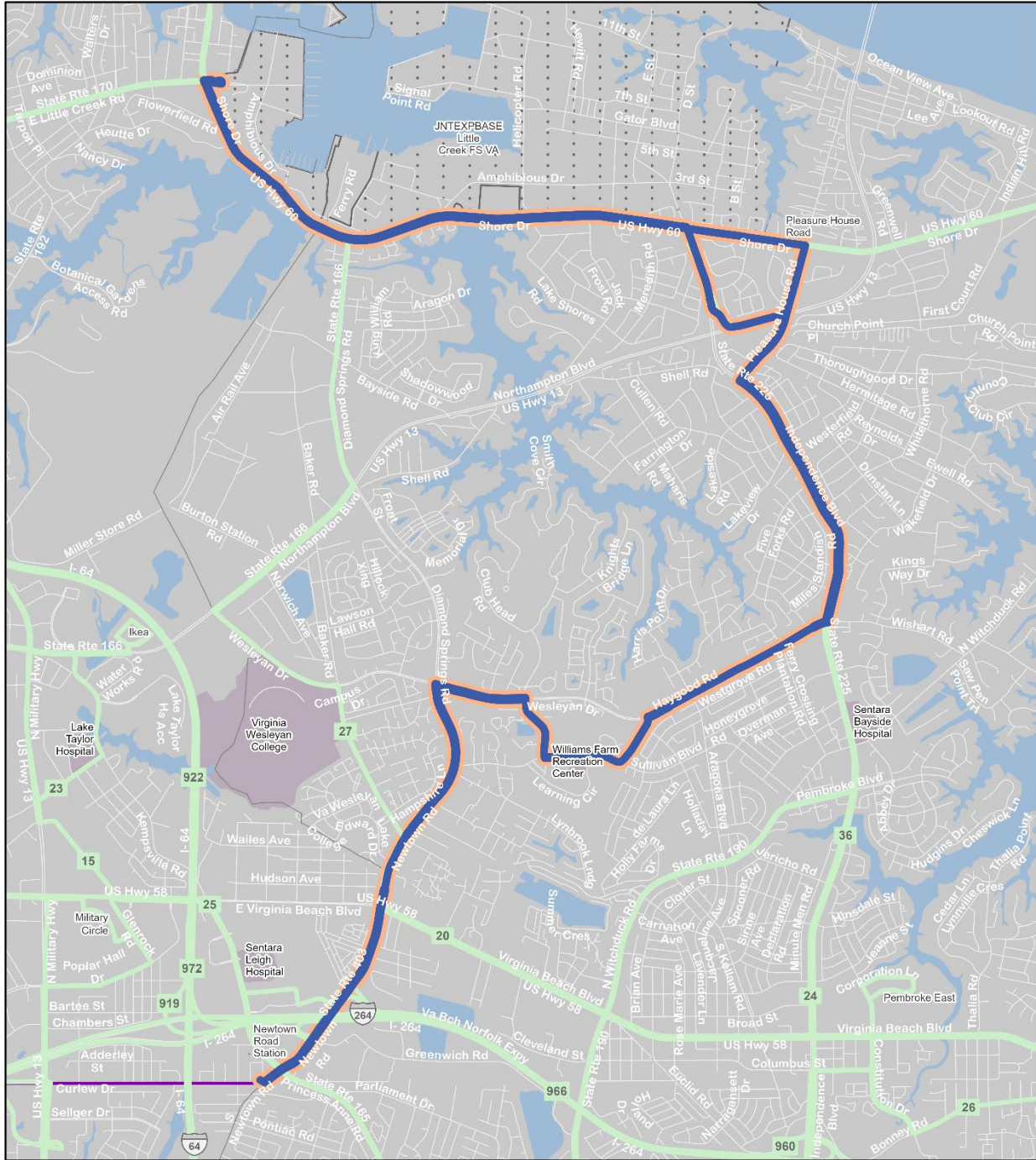
- Route 21 performs well on the six KPIs and will continue providing east-west connections in Norfolk in a similar fashion as currently operated.
- As a Regional Backbone route, Route 21 provides important crosstown connections between Route 1, Route 2, Route 3, Route 8, and Route 15, the high-frequency services providing north-south trips in Norfolk. Shortening peak period headways on Route 21 addresses a peak coverage demand gap between JEB Little Creek and Naval Station Norfolk.
- The service levels for Route 21 meet the service standards defined for Regional Backbone routes.

Route 21

Improvements by Year


Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	Change weekday, Saturday, and Sunday span to 5:00 a.m. to 1:00 a.m.. Improve weekday peak and weekday midday headways to 15 minutes and weekday evening headway to 30 minutes. Improve Sunday base and non-base headways to 30 minutes.		✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			


Route 22



Route 22

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 22

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newtown Road Station / Joint Expeditionary Base Little Creek	Newtown Road Station / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service		
Span		
	Existing	Planned
Weekday	6:03 a.m. - 6:56 p.m.	5:00 a.m. - 7:00 p.m.
Saturday	6:03 a.m. - 6:50 p.m.	5:00 a.m. - 7:00 p.m.
Sunday	-	6:00 a.m. - 7:00 p.m.

Headway			
	Existing	Planned	
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- No change in service alignment.
- Weekday and Saturday span of service will be expanded to operate between 5:00 a.m. and 7:00 p.m..
- Sunday service will be introduced, operating from 6:00 a.m. to 7:00 p.m..
- All service on Route 22 is hourly.



Justification

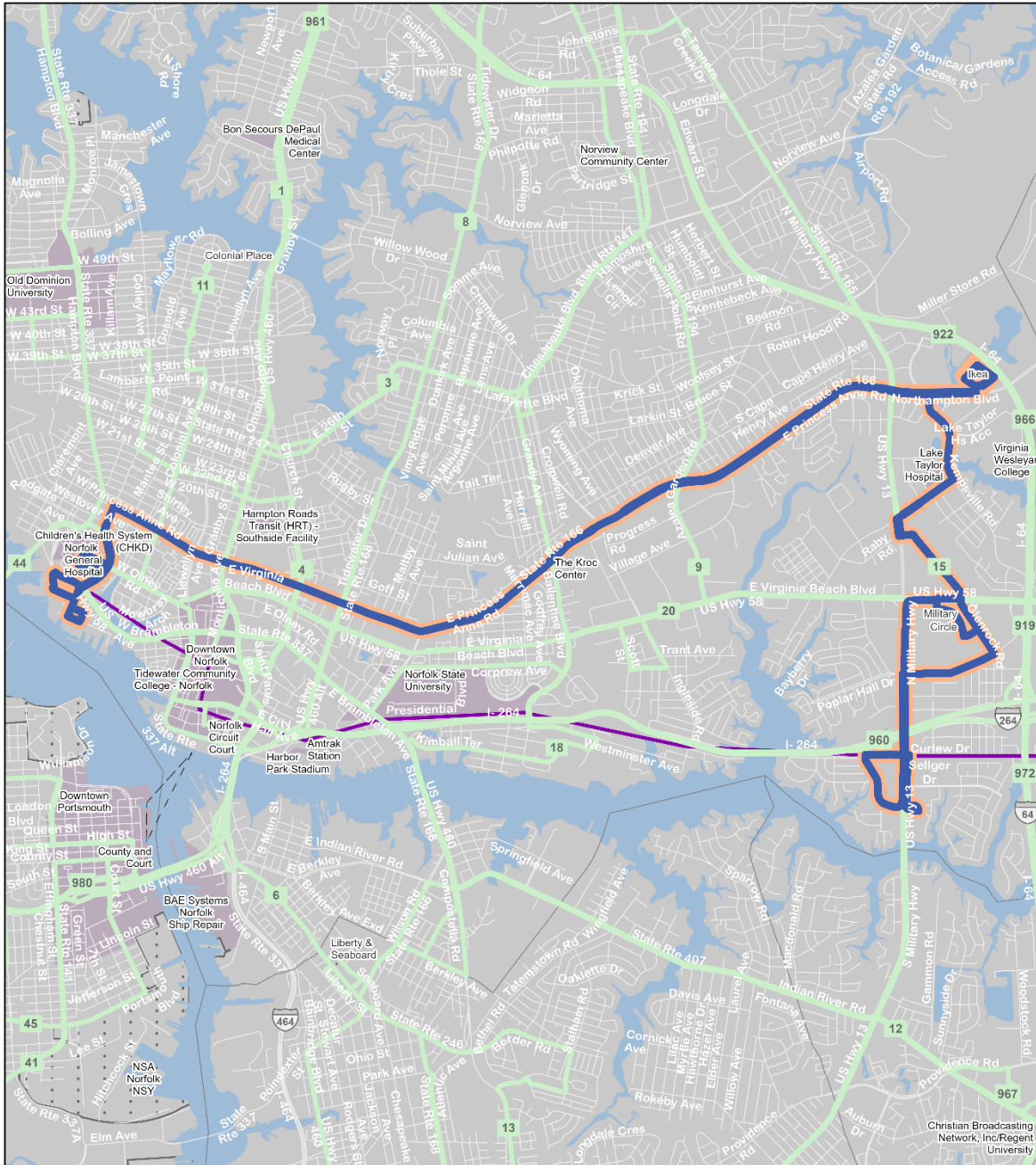
- Route 22 performs in the bottom third or quarter on all six Key Performance Indicators (KPI). Maintaining the existing service helps connect key Regional Backbone routes in Virginia Beach and Norfolk (Routes 21, 36, and 20) and the Tide light rail.
- The service levels for Route 22 meet the service standards defined for Coverage routes.

Route 22

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	Improve weekday and Saturday span to 5:00 a.m. to 7:00 p.m.. Introduce Sunday service from 6:00 a.m. to 7:00 p.m., operated hourly.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			


Route 23



Route 23

Focus Route


-  Planned Alignment
-  Existing Alignment


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 23

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk General Hospital / JANAF / Military Circle	Norfolk General Hospital / JANAF / Military Circle
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:04 a.m. - 1:06 a.m.	5:00 a.m. - 1:29 a.m.
Saturday		5:04 a.m. - 1:11 a.m.	5:00 a.m. - 1:22 a.m.
Sunday		5:53 a.m. - 8:58 p.m.	5:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	48	30 until 8:00 p.m., 60 after
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 23 will maintain its current alignment.
- Weekday service will be offered between 5:00 a.m. and 1:29 a.m. with half hour service from service start until 8:00 p.m. and hourly service thereafter. This matches the headways of the current Route 23 and represents an increase in span.
- Saturday service will remain the same as existing.
- Sunday span will be increased to operate between 5:00 a.m. and midnight. Service will be offered every half hour during the base period and hourly otherwise.



Justification

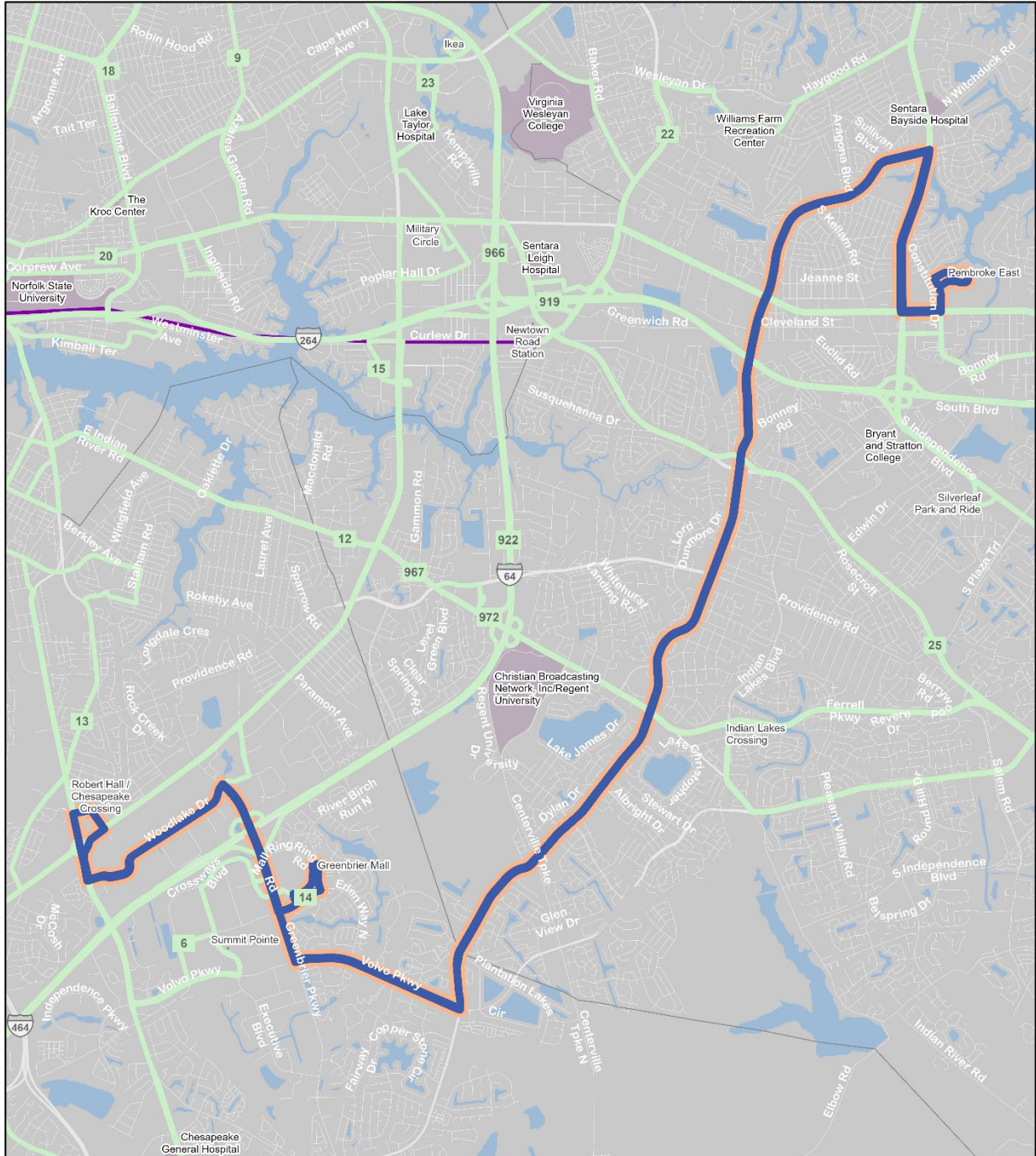
- Route 23 performs average on the six Key Performance Indicators (KPI) and provides an important connection between Military Highway and Downtown Norfolk. As such, no alignment changes are recommended.
- The service levels for Route 23 meet the service standards defined for Local Priority routes.

Route 23

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	Improve weekday span to end at 1:29 a.m. and Sunday span to 5:00 a.m. to 12:00 a.m.. Improve Sunday base headway to 30 minutes.		✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			



Route 24



Route 24

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 24

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Robert Hall Boulevard / Greenbrier Mall / Pembroke East	Robert Hall Boulevard / Greenbrier Mall / Pembroke East
Jurisdictions	Chesapeake, Virginia Beach	Chesapeake, Virginia Beach

Level of Service			
Span			
		Existing	Planned
	Weekday	7:00 a.m. - 9:40 p.m.	7:00 a.m. - 9:40 p.m.
	Saturday	7:00 a.m. - 10:23 p.m.	7:00 a.m. - 10:23 p.m.
	Sunday	8:00 a.m. - 7:55 p.m.	8:00 a.m. - 7:55 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	30	30
	Midday	60	60
	PM Peak	30	30
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-

Service Changes

- Route 24 alignment and level of service will remain same as existing for now, until evaluation of this newly implemented route is complete.



Justification

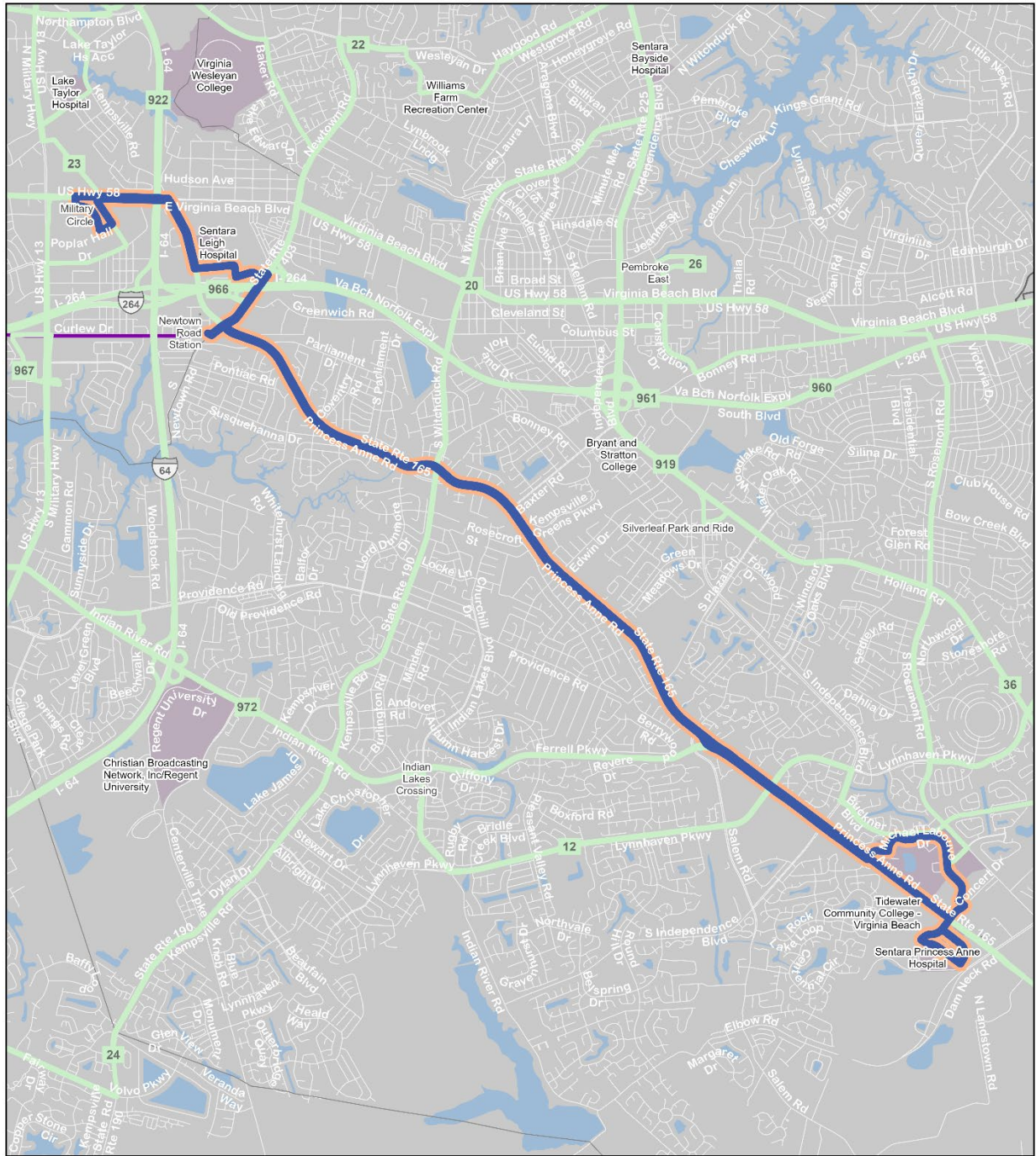
- At present, Route 24 has been operating for less than two years, and much of its operation has occurred during the COVID-19 pandemic. Only around six months of service occurred before the pandemic began. Once Route 24 has operated for a long enough time in a more normal operating environment (approximately 12 to 18 months should be sufficient), the route will be reevaluated, and the recommendations in the TSP may change in a future update.
- To meet the service design standards for a Coverage route, weekday service will need to begin at 5:00 a.m. and end at 10:19 p.m., which is reflected in the out years in the table on the following page.

Route 24

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	Improve weekday span to 5:00 a.m. to 10:19 p.m. and Saturday span to end at 10:23 p.m..		✓	


Route 25



Route 25

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 25

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Military Circle / TCC Virginia Beach / Sentara Princess Anne Hospital	Military Circle / TCC Virginia Beach / Sentara Princess Anne Hospital
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
	Weekday	6:02 a.m. - 11:55 p.m.	5:00 a.m. - 12:00 a.m.
	Saturday	6:07 a.m. - 12:55 a.m.	6:00 a.m. - 1:00 a.m.
	Sunday	-	6:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	60

Note
Existing Friday service ends later.

Service Changes

- No changes to existing alignment.
- Weekday span will be improved to begin at 5:00 a.m.. End times of weekday and Saturday service will remain similar to today.
- Sunday service will be introduced, operating from 6:00 a.m.-12:00 a.m..
- All headways for Route 25 are hourly.



Justification

- Route 25 is one of the lower performing routes on the Southside; however, it provides important connections between Norfolk, TCC Virginia Beach, and Sentara Princess Anne Hospital.
- The service levels for Route 25 meet the service standards defined for Coverage routes.

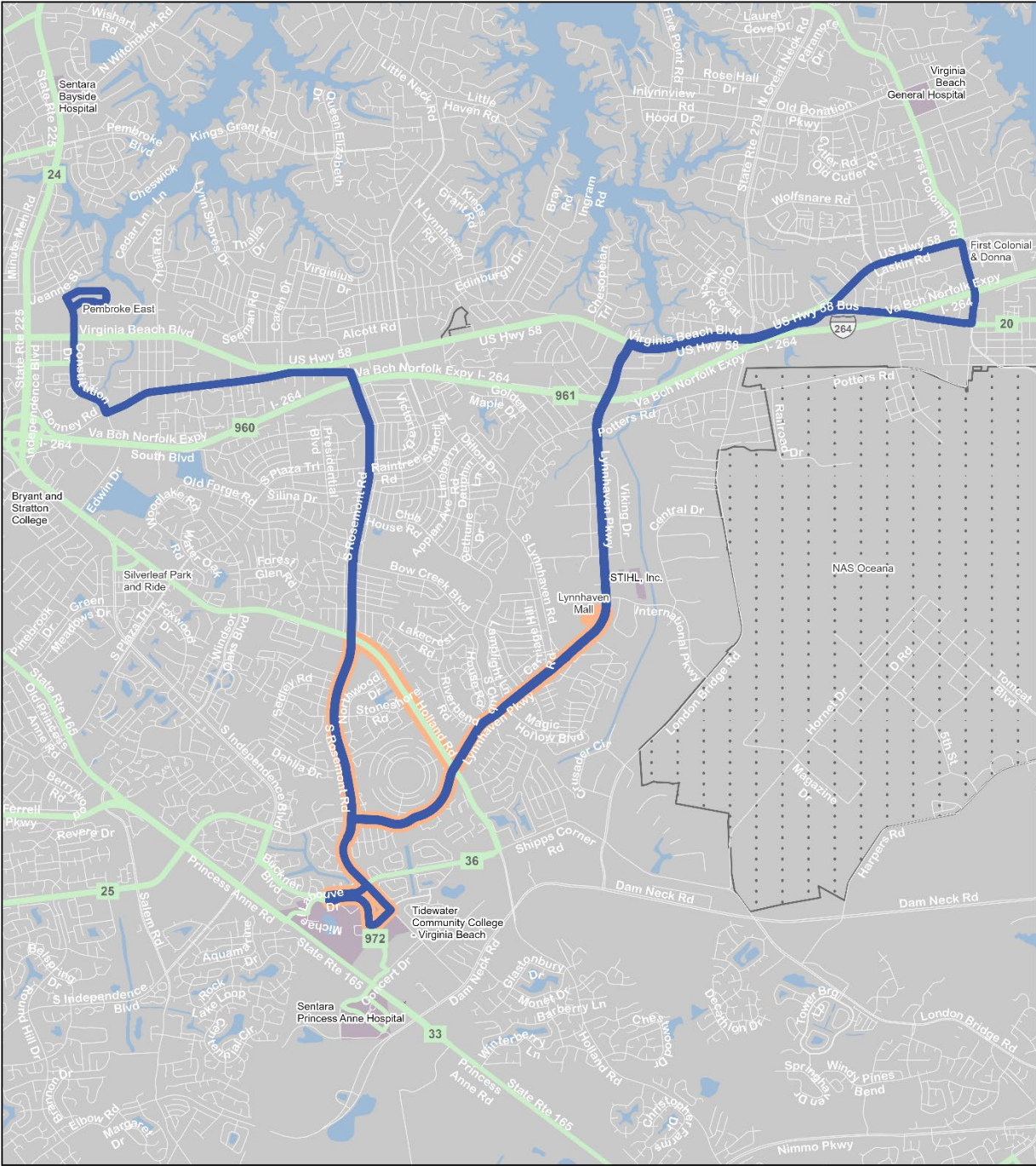
Route 25

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	Improve weekday span to 5:00 a.m. to 12:00 a.m. and Saturday span to 6:00 a.m. to 1:00 a.m.. Introduce Sunday service from 6:00 a.m. to 12:00 a.m., operated hourly.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			



Route 26



Route 26

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 26

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	TCC Virginia Beach / Lynnhaven Mall	Pembroke East / TCC Virginia Beach / First Colonial Road & Donna Drive
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		6:29 a.m. - 6:45 p.m.	5:00 a.m. - 8:00 p.m.
Saturday		7:32 a.m. - 6:46 p.m.	6:48 a.m. - 8:00 p.m.
Sunday		-	7:00 a.m. - 8:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	30	60
	Midday	30	60
	PM Peak	30	60
	Evening	30	60
	Late Night	-	-
Saturday	Base	30	60
	Non-Base	-	60
	Early / Late	-	-
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- Route 26 will continue providing a connection between Lynnhaven Mall and Tidewater Community College (TCC) Virginia Beach. North of S Rosemont Road and Holland Road, service will be extended to Bonney Road and Pembroke East. North of Lynnhaven Mall, Route 26 will extend service to operate on Lynnhaven Parkway, Virginia Beach Boulevard, and Laskin Road, terminating at First Colonial and Donna. This extension will cover the realigned Route 29 which will no longer operate south of First Colonial and Donna.
- Weekday service will be provided hourly from 5:00 a.m. until 8:00 p.m..
- Saturday service will be offered hourly from 6:48 a.m. to 8:00 p.m.. Sunday service will be added, operating hourly from 7:00 a.m. to 8:00 p.m..



Justification

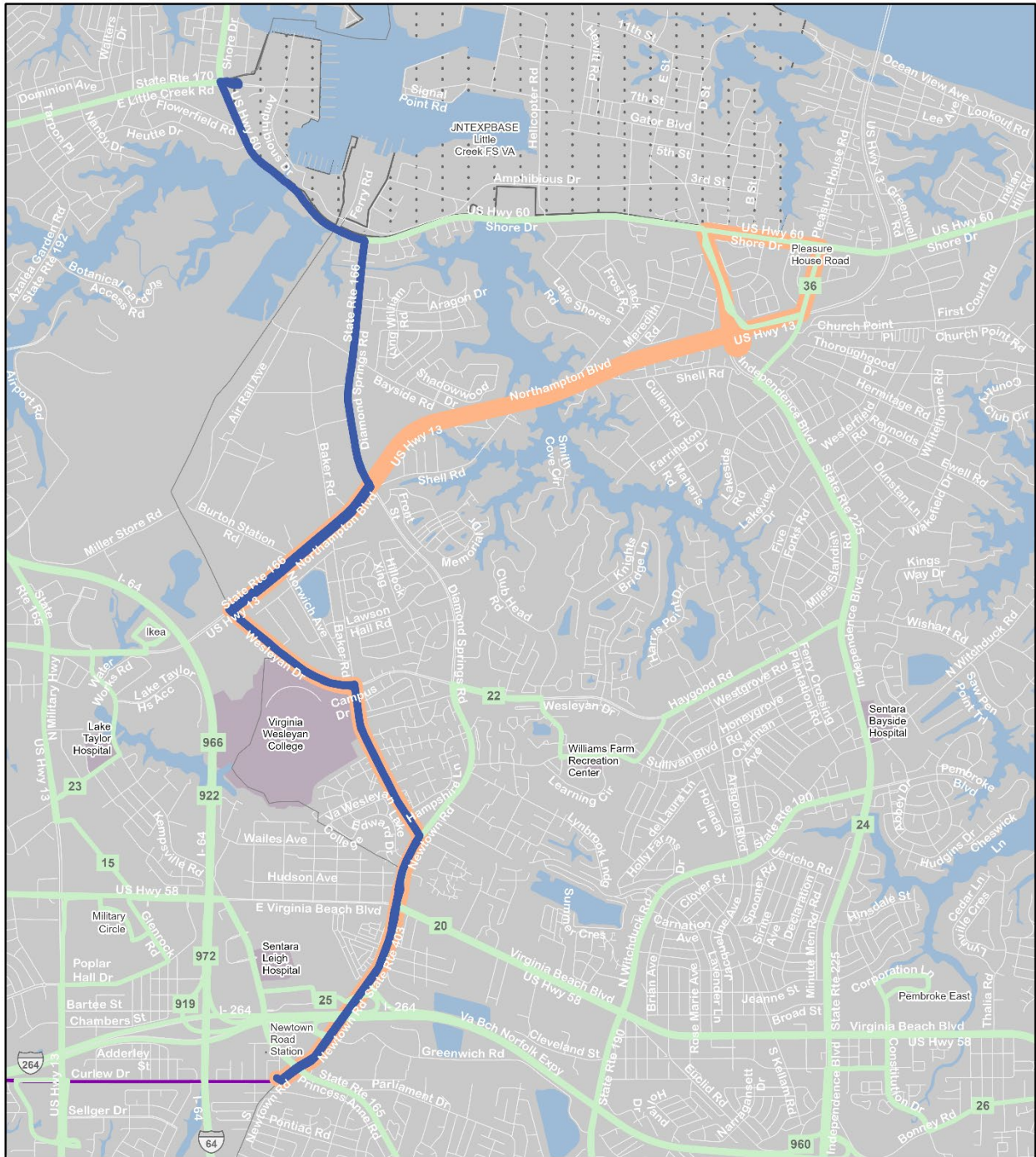
- Reconfiguring Route 26 to serve more destinations and provide more connections throughout Virginia Beach addresses the need to improve the performance and utilization of the route, as it currently displays low performance on the six Key Performance Indicators (KPI).
- The service levels for Route 26 meet the service standards defined for Coverage routes.

Route 26

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	Route 26 is realigned. Route 26 will continue providing a connection between Lynnhaven Mall and Tidewater Community College (TCC) Virginia Beach. North of S Rosemont Road and Holland Road, service will be extended to Bonney Road and Pembroke East. North of Lynnhaven Mall, Route 26 will extend service to operate on Lynnhaven Parkway, Virginia Beach Boulevard, and Laskin Road, terminating at First Colonial and Donna. This extension will cover the realigned Route 29 which will no longer operate south of First Colonial and Donna. Service will operate hourly. Improve Saturday span to begin at 6:48 a.m..	✓		
FY 2027	Improve weekday span to start at 5:00 a.m..			
FY 2028	Improve weekday span to end at 8:00 p.m.. Introduce Sunday service from 8:00 a.m. to 6:00 p.m., operating hourly.			✓
FY 2029	Improve Saturday span to end at 8:00 p.m. and Sunday span from 7:00 a.m. to 8:00 p.m..		✓	
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 27



Route 27

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 27

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newtown Road Station / Pleasure House Road	Newtown Road Station / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:48 a.m. - 11:54 p.m.	5:00 a.m. - 11:54 p.m.
Saturday		5:48 a.m. - 1:03 a.m.	5:48 a.m. - 1:03 p.m.
Sunday		-	7:00 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	60
	AM Peak	30	30
	Midday	60	30
	PM Peak	30	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	-	30
	Non-Base	-	60
	Early / Late	-	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 27 will be reconfigured to operate between JEB Little Creek and the Newtown Road light rail station, no longer serving Pleasure House Road, and providing a new transfer connection to Regional Backbone Route 8 and Route 21. Service on Northampton Boulevard east of Diamond Springs Road will be eliminated. Route 27 covers the eliminated portion of Route 1 on Shore Drive between E Little Creek Road and Diamond Springs Road.
- Weekday service will start earlier at 5:00 a.m.. Service will operate every half hour during the a.m. and PM peak periods and midday, with hourly service in the early, evening, and late night periods.
- Saturday span of service will remain the same as existing. Service in the base period will have better headways, with service every half hour.
- Sunday service will be introduced from 7:00 a.m. to 11:00 p.m.. During the base period service will operate every half hour.



Justification

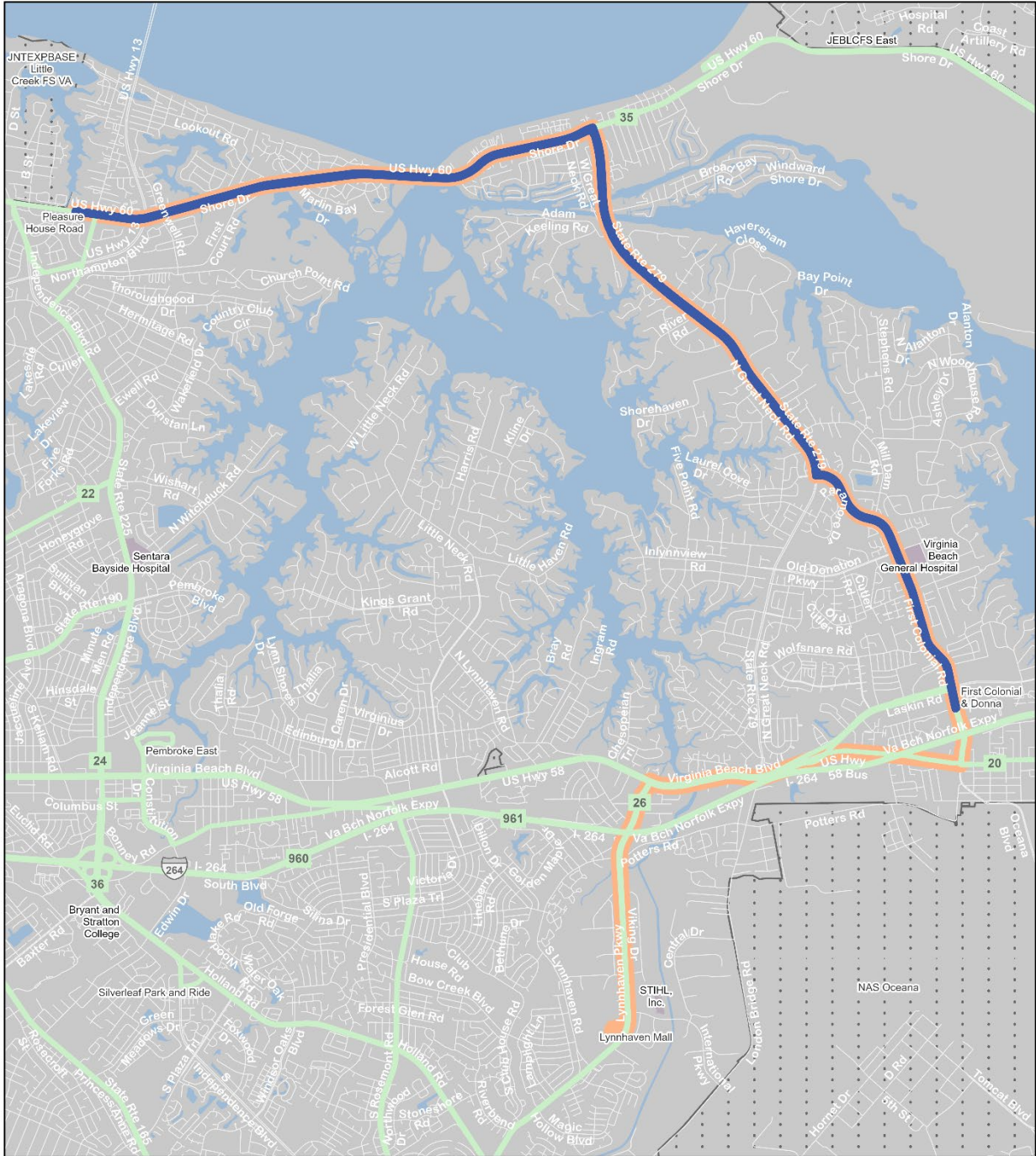
- Route 27 is being realigned due to the modest performance of the current route. The new alignment will provide a quick connection between JEB Little Creek and the Newtown Road light rail station via Diamond Springs Road. This streamlined service and new termination point at JEB Little Creek (with connections to several other HRT services) will provide a more attractive service which will help to grow service utilization.
- The service levels for Route 27 meet the service standards defined for Local Priority routes.

Route 27

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 27 is realigned to operate between JEB Little Creek and the Newtown Road light rail station, no longer serving Pleasure House Road. Introduce Sunday service from 7:00 a.m. to 11:00 p.m., operated hourly. Improve weekday span to begin at 5:00 a.m.. Improved weekday midday headway, Saturday base headway, and Sunday base headway to 30 minutes. Change weekday early headway to 60 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 29



Route 29

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 29

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Pleasure House Road / Lynnhaven Parkway	Pleasure House Road / First Colonial Road & Donna Drive
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		6:48 a.m. - 10:15 p.m.	5:00 a.m. - 10:16 p.m.
Saturday		6:48 a.m. - 10:21 p.m.	6:48 a.m. - 10:21 p.m.
Sunday		-	7:00 a.m. - 8:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- Route 29 will operate between Pleasure House Road and First Colonial Road and Donna Drive, where it will connect with Route 20 and the extended Route 26. Service south of First Colonial and Donna will be covered by the realigned Route 26.
- Weekday service will begin almost two hours earlier than existing service, operating from 5:00 a.m. to 10:16 p.m.. Hourly service will be offered during all periods.
- Saturday service will be offered from 6:48 a.m. to 10:21 p.m., the same as existing service.
- Sunday service will be added, operating from 8:00 a.m. to 7:00 p.m..



Justification

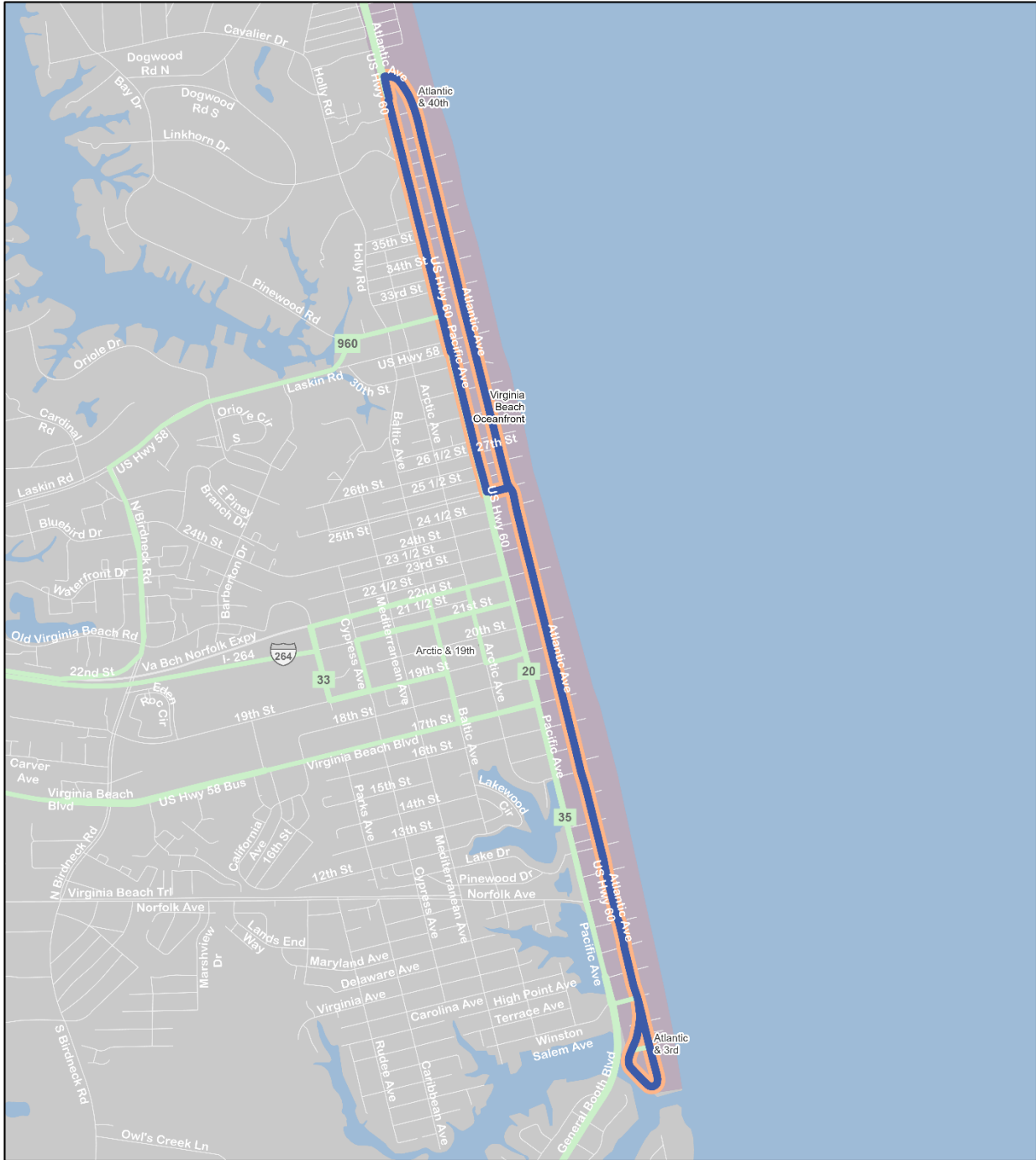
- Route 29 performs in the lowest quarter of routes on the six Key Performance Indicators (KPI) but provides an important connection to Virginia Beach General Hospital. Realigning Route 26 and Route 29 to both truncate at First Colonial and Donna prevents overlapping service between the two of them and provides a better common transfer point. Transferring at First Colonial and Donna also provides the opportunity to connect with the high-frequency service of the Regional Backbone Route 20, which should induce further utilization of these routes.
- The service levels for Route 29 meet the service standards defined for Coverage routes.

Route 29

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	Route 29 is realigned to operate between Pleasure House Road and First Colonial Road and Donna Drive, where it will connect with Route 20 and the extended Route 26. Service south of First Colonial and Donna will be covered by the realigned Route 26.	✓		
FY 2027	Improve weekday span to start at 5:00 a.m..			
FY 2028	Introduce Sunday service from 8:00 a.m. to 6:00 p.m., operating hourly.			✓
FY 2029	Improve Sunday span to 7:00 a.m. to 8:00 p.m..		✓	
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 30






Route 30

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 30

Service Classification
Local Priority

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Atlantic Avenue Trolley	Atlantic Avenue Trolley
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		8:01 a.m. - 2:06 a.m.	8:01 a.m. - 2:06 a.m.
Saturday		8:01 a.m. - 2:06 a.m.	8:01 a.m. - 2:06 a.m.
Sunday		8:01 a.m. - 2:06 a.m.	8:01 a.m. - 2:06 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	10-20	10-20
	Midday	10-20	10-20
	PM Peak	10-20	10-20
	Evening	10-20	10-20
	Late Night	10-20	10-20
Saturday	Base	10-20	10-20
	Non-Base	10-20	10-20
	Early / Late	10-20	10-20
Sunday	Base	10-20	10-20
	Non-Base	10-20	10-20
	Early / Late	10-20	10-20

Note
This route only operates during summer. In the summer of 2020 it did not operate due to the Covid-19 pandemic reductions in service.

Service Changes

- No alignment or level of service changes are proposed.

Justification

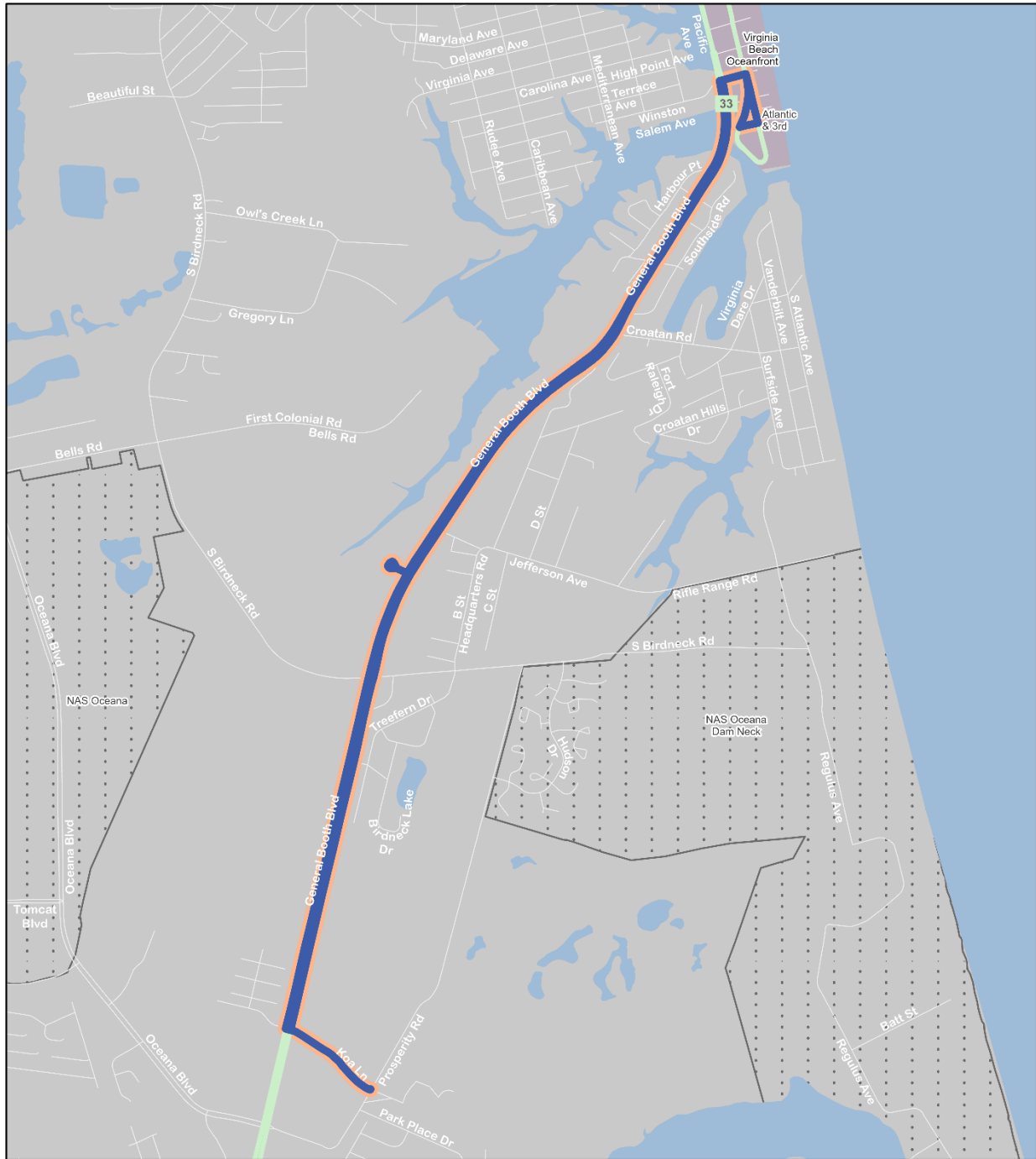
- Route 30 is a seasonal service that operates in Virginia Beach and will remain in service as it is currently operated.

Route 30

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes from existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 31






Route 31

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 31

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Aquarium and Campground Trolley	Aquarium and Campground Trolley
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		9:30 a.m. - 11:10 p.m.	9:30 a.m. - 11:10 p.m.
Saturday		9:30 a.m. - 11:10 p.m.	9:30 a.m. - 11:10 p.m.
Sunday		9:30 a.m. - 11:10 p.m.	9:30 a.m. - 11:10 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	20	20
	Midday	20	20
	PM Peak	20	20
	Evening	20	20
	Late Night	20	20
Saturday	Base	20	20
	Non-Base	20	20
	Early / Late	20	20
Sunday	Base	20	20
	Non-Base	20	20
	Early / Late	20	20

Note	
This route only operates during summer. In the summer of 2020 it did not operate due to the Covid-19 pandemic reductions in service.	

Service Changes

- No alignment or level of service changes are proposed.

Justification

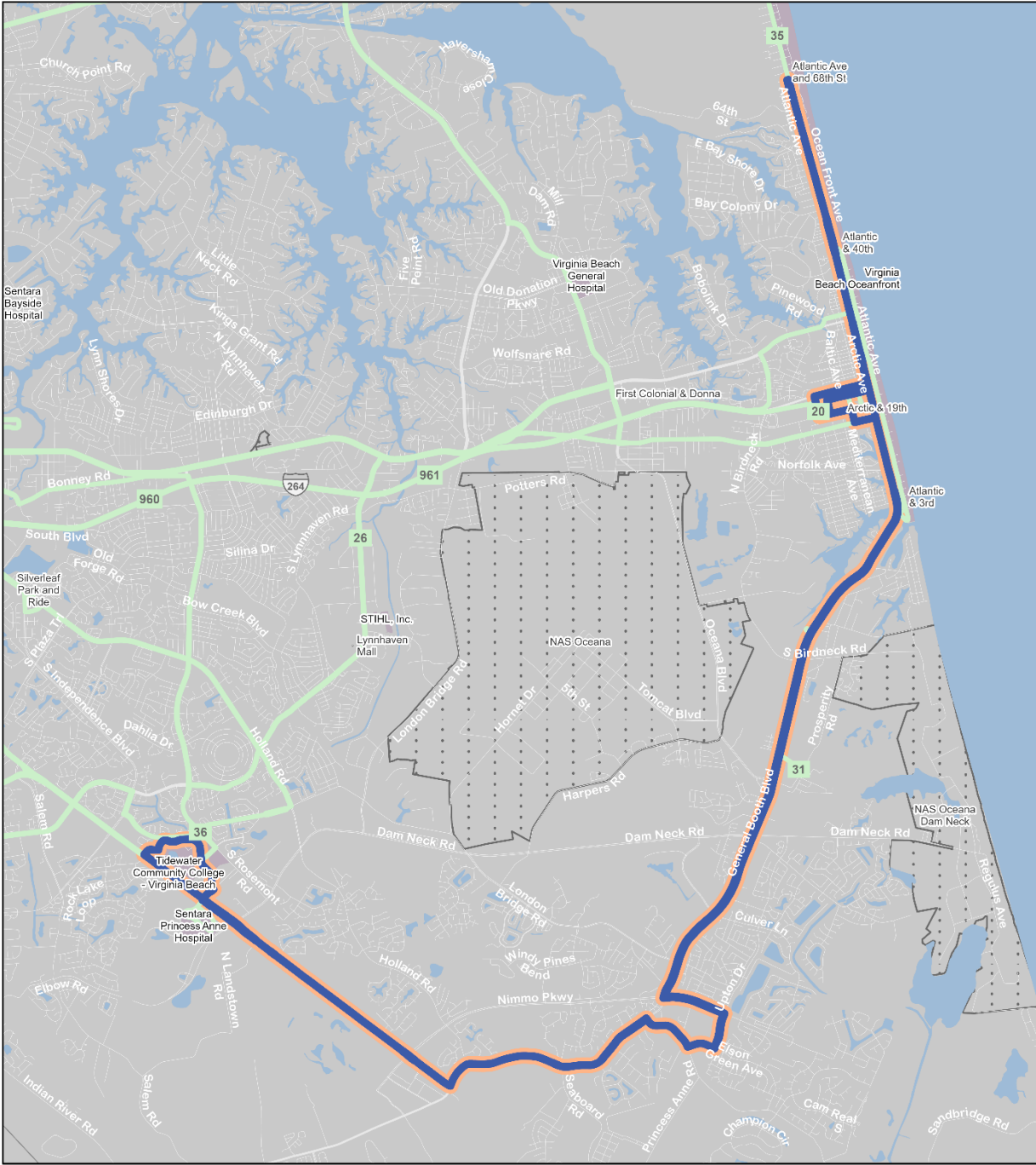
- Route 31 is a seasonal service that operates in Virginia Beach and will remain in service as it is currently operated.

Route 31

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes from existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 33






Route 33

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 33

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	TCC Virginia Beach / Atlantic Avenue / 68th Street	TCC Virginia Beach / Atlantic Avenue / 68th Street
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	6:16 a.m. - 10:58 p.m.	5:00 a.m. - 10:58 p.m.	
Saturday	6:26 a.m. - 10:53 p.m.	6:30 a.m. - 10:00 p.m.	
Sunday	-	8:00 a.m. - 8:00 p.m.	
Headway			
	Existing	Planned	
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	60

Service Changes

- Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.
- Weekday span is increased to begin at 5:00 a.m.. Saturday span is changed to begin at 6:30 a.m. and end at 10:00 p.m..
- Currently there is no Sunday service on Route 33 but eventually it will be reintroduced from 8:00 a.m. to 8:00 p.m. along the full length of the route.



Justification

- Route 33 is one of the lowest performing routes on the Southside, but it provides important connections between TCC Virginia Beach, the Virginia Beach Municipal Center, and the Virginia Beach Oceanfront. As such, service will be maintained mostly the same as existing.
- Low ridership on Sundays is prompting the removal of Sunday service in FY 2021. To meet service design standards, Sunday service will be reintroduced.
- The service levels for Route 33 meet the service standards defined for Coverage routes.

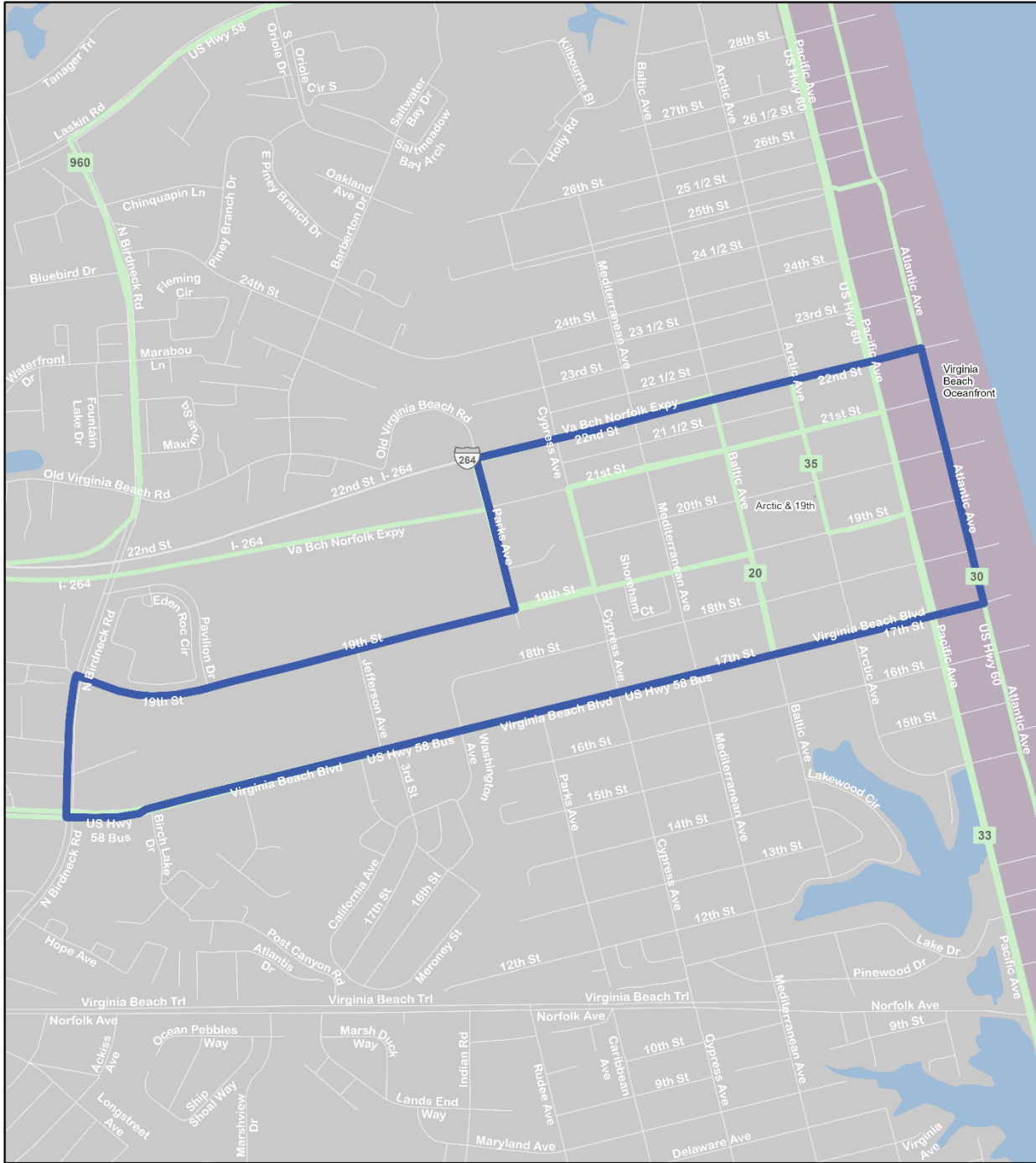
Route 33

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	(This change will technically occur towards the end of FY 2022) Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.	✓		
FY 2024	Improve weekday span to begin at 5:00 a.m. and change Saturday span to 6:30 a.m. to 10:00 p.m..			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	Re-introduce hourly Sunday service from 8:00 a.m. to 8:00 p.m..			✓
Out Years	Improve Sunday span to 6:02 a.m. to 10:00 p.m..		✓	








Route 34 (Summer)






Route 34 (Summer)

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 34 (Summer)

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Summer Shuttle Trolley
Jurisdictions	-	Virginia Beach

Level of Service		
Span		
	Existing	Planned
Weekday	-	-
Saturday	-	8:00 a.m. - 12:00 a.m.
Sunday	-	8:00 a.m. - 12:00 a.m.
Headway		
	Existing	Planned
Weekday	Early	-
	AM Peak	-
	Midday	-
	PM Peak	-
	Evening	-
	Late Night	-
Saturday	Base	15
	Non-Base	15
	Early / Late	15
Sunday	Base	15
	Non-Base	15
	Early / Late	15

Note
This route only operates during summer and only on weekends.

Service Changes

- Route 34 (Summer) is a new VB Wave route that will be implemented to provide a connection to remote parking due to loss of spaces from construction of the Atlantic Park Surf Facility and serve the Vibe businesses.
- Service will operate in a loop: it will begin at Parks Avenue and 19th Street, travel along 19th Street to Birdneck Road, then turn left to serve Virginia Beach Boulevard to Atlantic Avenue, then turn left on 22nd Street and left on Parks Avenue.
- Service will operate on weekends only during the summer season (from Memorial Day to the Neptune Festival) every 15 minutes from 8:00 a.m. to midnight.



Justification

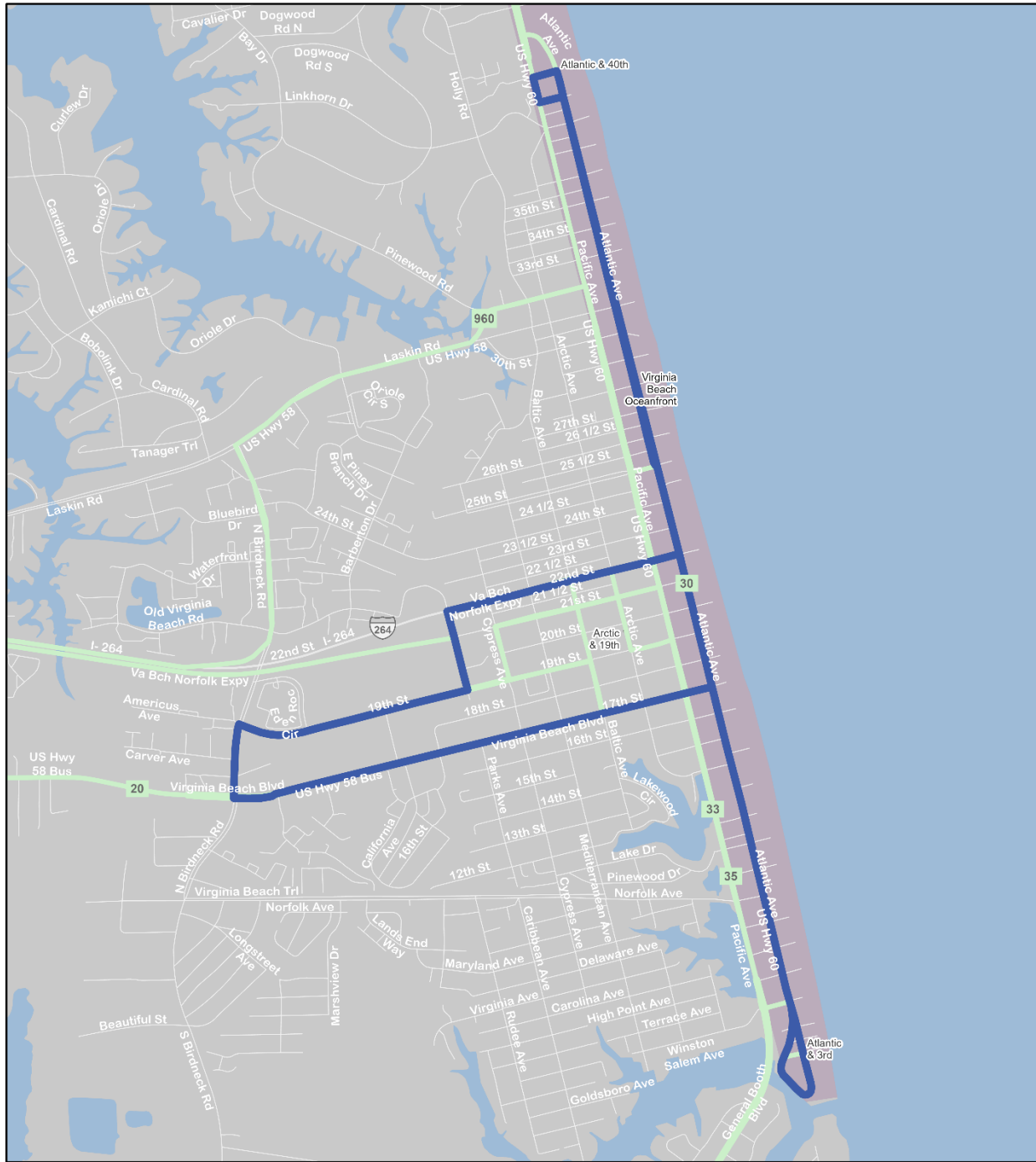
- Due to parking reductions, Route 34 (Summer) will provide connections from parking at the Convention Center to the Oceanfront, creating a more complete summer transit system for beach- and event-goers.

Route 34 (Summer)

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 34 (Summer) will provide a connection to remote parking due to loss of spaces from construction of the Atlantic Park Surf Facility and serve the Vibe businesses. Service will operate on weekends only during the summer season (Memorial Day – Neptune Festival) every 15 minutes from 8:00 a.m. to 12:00 a.m.. Service will operate in a loop: it will begin at Parks Avenue & 19th Street, travel along 19th Street to Birdneck Road, then turn left to serve Virginia Beach Boulevard to Atlantic Avenue, then turn left on 22nd Street and left on Parks Avenue.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 34 (Off-Season)



Route 34 (Off-Season)

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 34 (Off-Season)

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Off-Season Shuttle Trolley
Jurisdictions	-	Virginia Beach

Level of Service			
Span			
		Existing	Planned
	Weekday	-	-
	Saturday	-	7:00 a.m. - 9:00 p.m.
	Sunday	-	7:00 a.m. - 9:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	-	-
	Midday	-	-
	PM Peak	-	-
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	15
	Non-Base	-	15
	Early / Late	-	-
Sunday	Base	-	15
	Non-Base	-	15
	Early / Late	-	-

Note	
This route only operates during the off-season (non-summer) and only on weekends.	

Service Changes

- Route 34 (Off-Season) is a new VB Wave route that will be implemented to provide special event and oceanfront service in an alignment similar to a combination of the seasonal Route 30 and Route 34 (Summer).
- Service will begin and end at the Rudee Inlet loop. It will follow much of the Route 30 alignment north to 39th Street, then turn around at 40th Street to serve Atlantic Avenue southbound before turning right onto 22nd Street. It will follow the same loop as the Route 34 summer route, then continue southbound on Atlantic Avenue to Rudee Inlet.
- Service will operate on weekends only during the off-season (from the Neptune Festival to Memorial Day) every 15 minutes from 7:00 a.m. to 9:00 p.m..



Justification

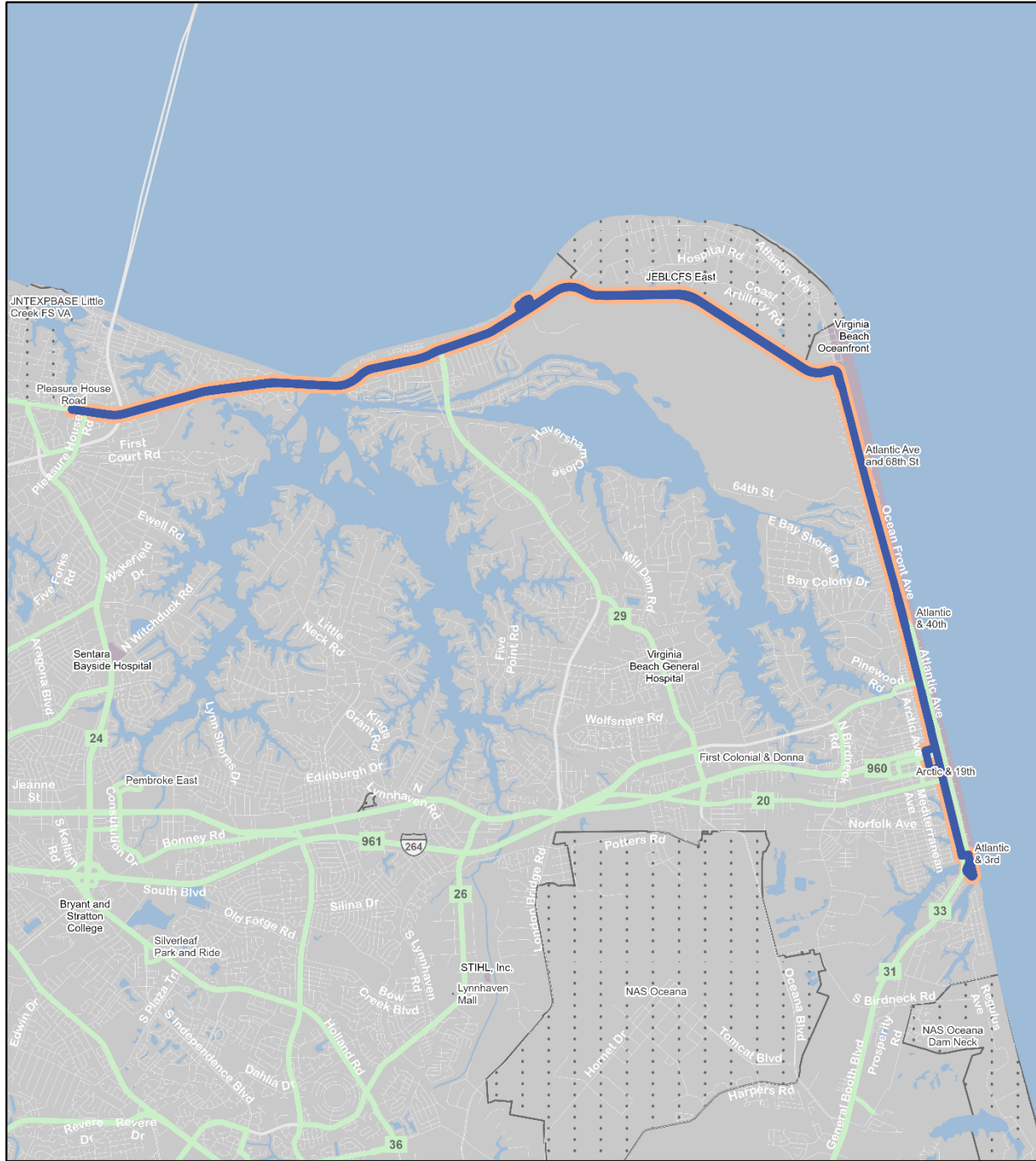
- Route 34 (Off-Season) will connect parking locations to special event destinations along the Oceanfront in the off-season.

Route 34 (Off-Season)

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 34 (Off-Season) will be utilized for designated special events. Service will operate weekends only between the Neptune Festival and Memorial Day every 15 minutes from 7:00 a.m. to 9:00 p.m.. Service will begin and end at the Rudee Inlet loop. It will follow much of the Route 30 alignment north to 39th Street, then turn around at 40th Street to serve Atlantic Avenue southbound before turning right onto 22nd Street. It will follow the same loop as the Route 34 summer route, then continue southbound on Atlantic Avenue to Rudee Inlet.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No Changes.			

Route 35



Route 35

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 35

Service Classification
Local Priority

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Bayfront Shuttle	Bayfront Shuttle
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
	Weekday	7:50 a.m. - 12:47 a.m.	7:50 a.m. - 12:47 a.m.
	Saturday	7:50 a.m. - 12:47 a.m.	7:50 a.m. - 12:47 a.m.
	Sunday	7:50 a.m. - 12:47 a.m.	7:50 a.m. - 12:47 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	30	30
	Late Night	30	30
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	30	30
Sunday	Base	30	30
	Non-Base	30	30
	Early / Late	30	30

Note
This route only operates during summer. In the summer of 2020 it did not operate due to the Covid-19 pandemic reductions in service.

Service Changes

- No changes from existing service.

Justification

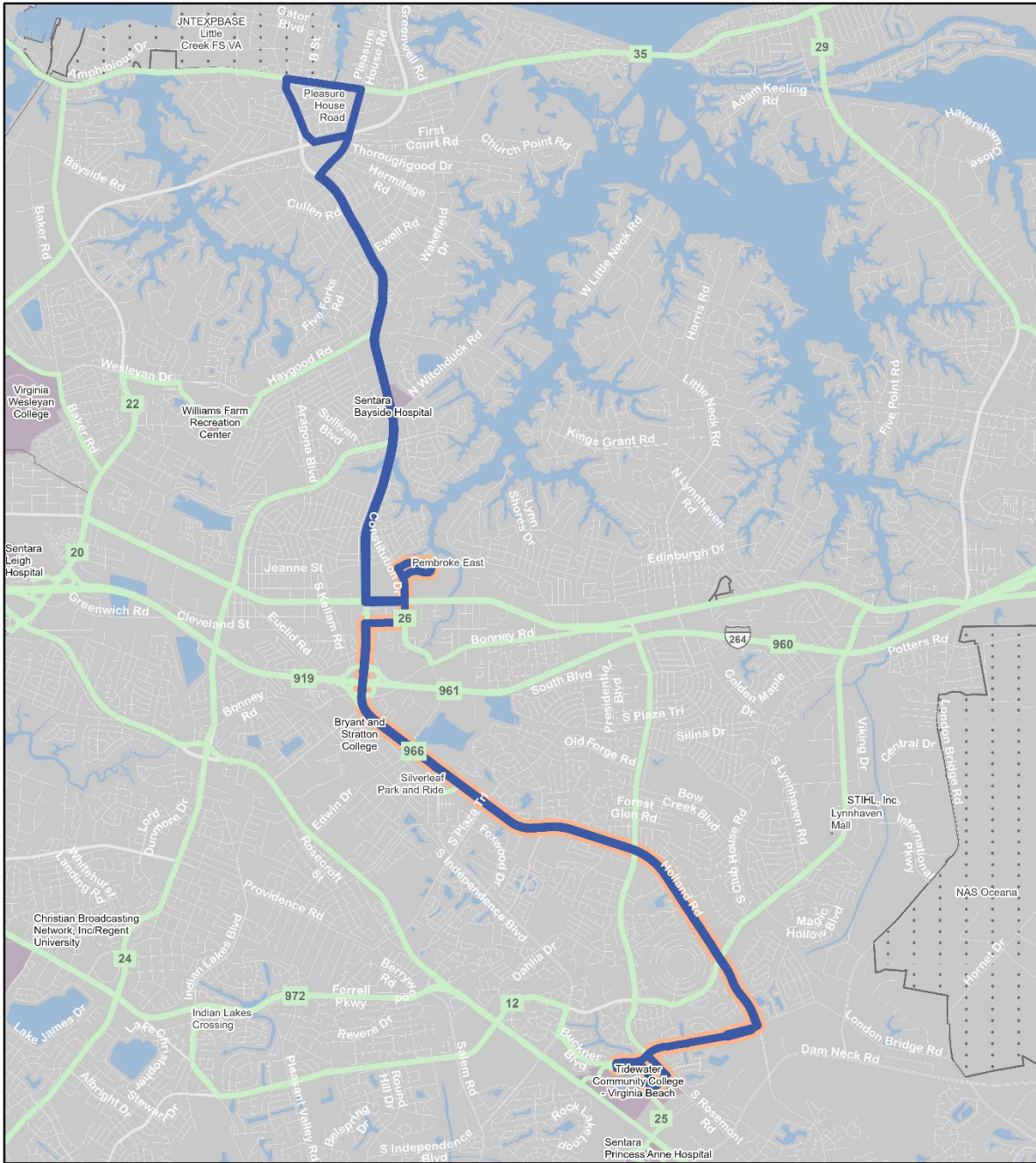
- Route 35 is a seasonal service that operates in Virginia Beach and will remain in service as it is currently operated.

Route 35

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 36



Route 36

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 36

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Pembroke East / TCC Virginia Beach	Pleasure House Road / Pembroke East / TCC Virginia Beach
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:48 a.m. - 10:41 p.m.	5:00 a.m. – 1:00 a.m.
Saturday		6:10 a.m. - 10:43 p.m.	5:00 a.m. – 12:00 a.m.
Sunday		-	5:00 a.m. – 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	15
	Midday	60	30
	PM Peak	30	15
	Evening	60	30
	Late Night	-	60
Saturday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	-	30
	Non-Base	-	30
	Early / Late	-	60

Service Changes

- Route 36 will be extended to Pleasure House Road and Shore Drive north of Pembroke East. Route 36 will cover the Independence Boulevard corridor currently served by Route 1.
- On weekdays Route 36 will provide 15-minute service during the peak periods and 30-minute service during the early, midday, and evening periods. Hourly service will be provided from 9:00 p.m. to 12:00 a.m.. Weekday span of service will be extended to operate between 5:00 a.m. and 1:00 a.m..
- On weekends, Sunday service will be added and the span of service for both weekend days will be from 5:00 a.m. to midnight. Route 36 will operate with 30-minute headways throughout much of the weekend service day.



Justification

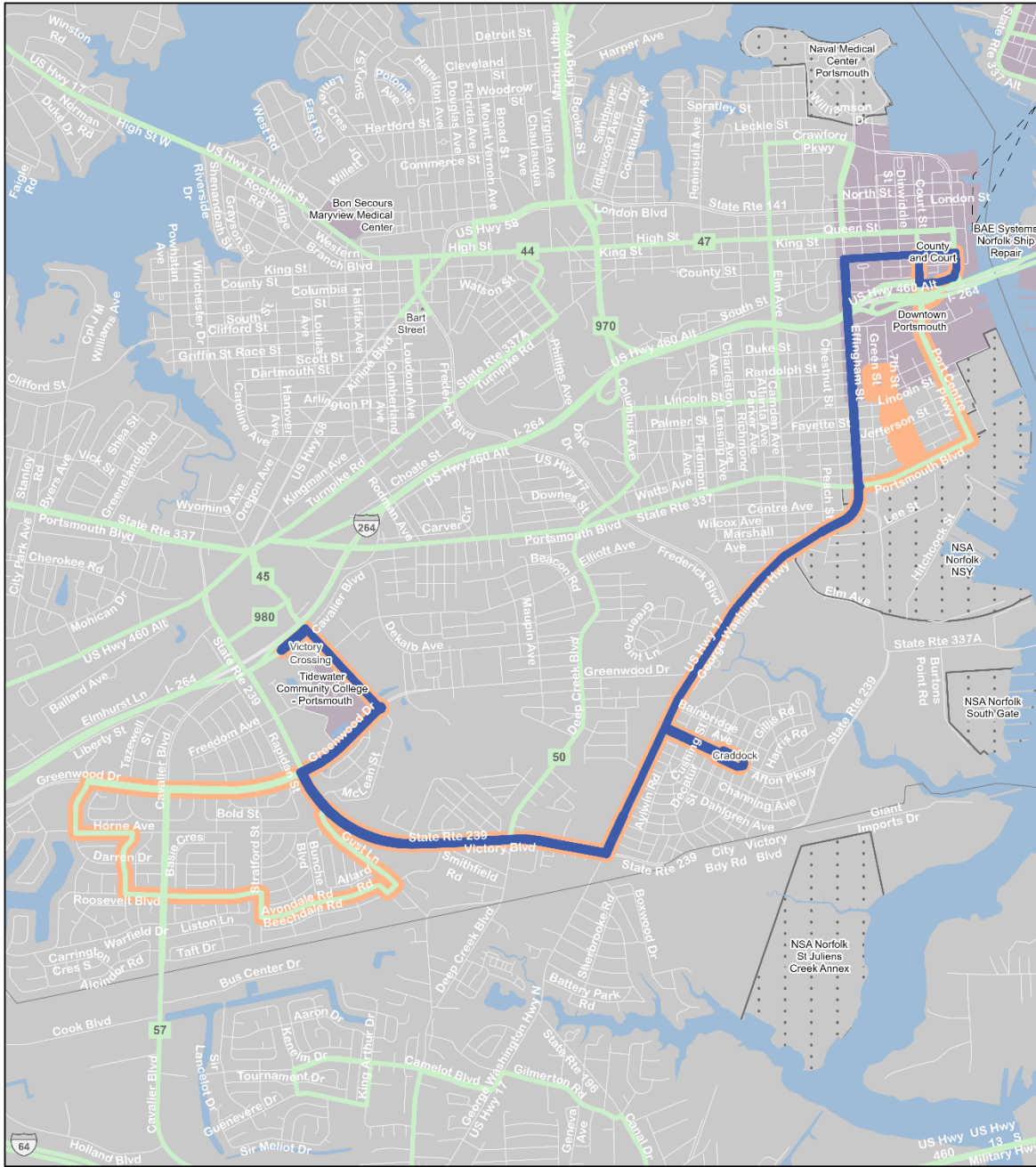
- Route 36 performs above average on most of the six Key Performance Indicators (KPI). The new extension of service on Route 36 connecting high-production areas will further improve the performance of the route.
- The extension of the service to Pleasure House Road will provide a north-south connection between Virginia Beach Avenue and Pleasure House Road. This new connection via the extended Route 36 addresses a gap in all-day transit demand and provides a higher level of service to the area. Route 36 will provide a cross-regional connection between Shore Drive and TCC Virginia Beach, which previously required a transfer.
- The service levels for Route 36 meet the service standards defined for Regional Backbone routes.

Route 36

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 36 is extended to Pleasure House Road and Shore Drive north of Pembroke East. Route 36 will cover the Independence Boulevard corridor currently served by Route 1. Improve weekday span to 5:00 a.m. to 1:00 a.m.. Improve Saturday and Sunday span to 5:00 a.m. to 12:00 a.m.. Improve weekday peak headways to 15 minutes. Improve weekday midday, weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base to 30 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 41



Route 41

Focus Route


-  Planned Alignment
-  Existing Alignment


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 41

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Portsmouth / Craddock	Downtown Portsmouth / Victory Crossing
Jurisdictions	Portsmouth	Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		5:56 a.m. - 6:53 p.m.	5:00 a.m. - 11:00 p.m.
Saturday		6:03 a.m. - 6:55 p.m.	6:03 a.m. - 11:00 p.m.
Sunday		-	6:03 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	30
	Late Night	-	-
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	-	30
	Non-Base	-	60
	Early / Late	-	60

Service Changes

- Route 41 will no longer serve Port Centre Parkway, 7th Street, Lincoln Street, 8th Street, and Portsmouth Boulevard east of Effingham Street, but will instead continue straight onto County Street after leaving the Court and County hub, and then turn left on Effingham to continue onto George Washington Highway (following a portion of existing Route 45). The route will bypass the existing deviation on Gust Lane, Avondale Road, Roosevelt Boulevard, and Greenwood Drive, and continue straight on Victory Boulevard and turn right onto Greenwood Drive. The service will then follow the existing route to Victory Crossing. Service on Gust Lane, Avondale Road, Roosevelt Boulevard, and Greenwood Drive will be replaced by the realigned Route 50, and service along Portsmouth Boulevard and Port Centre Parkway will be replaced with the realigned Route 45.
- Service will no longer be provided along 7th Street and 8th Street in Portsmouth; however, the realigned Route 41 will be a short walk away along Effingham Street.
- Service on weekdays will be extended to operate between 5:00 a.m. and 11:00 p.m., with half hour service through most of the service day.
- Saturday service will be provided hourly between 6:03 a.m. and 11:00 p.m., extending the span in the evening to meet the service design standard for Local Priority routes. Sunday service will be introduced at the same levels of Saturday service.
- All routes which serve Victory Crossing, including Route 41, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.

Route 41



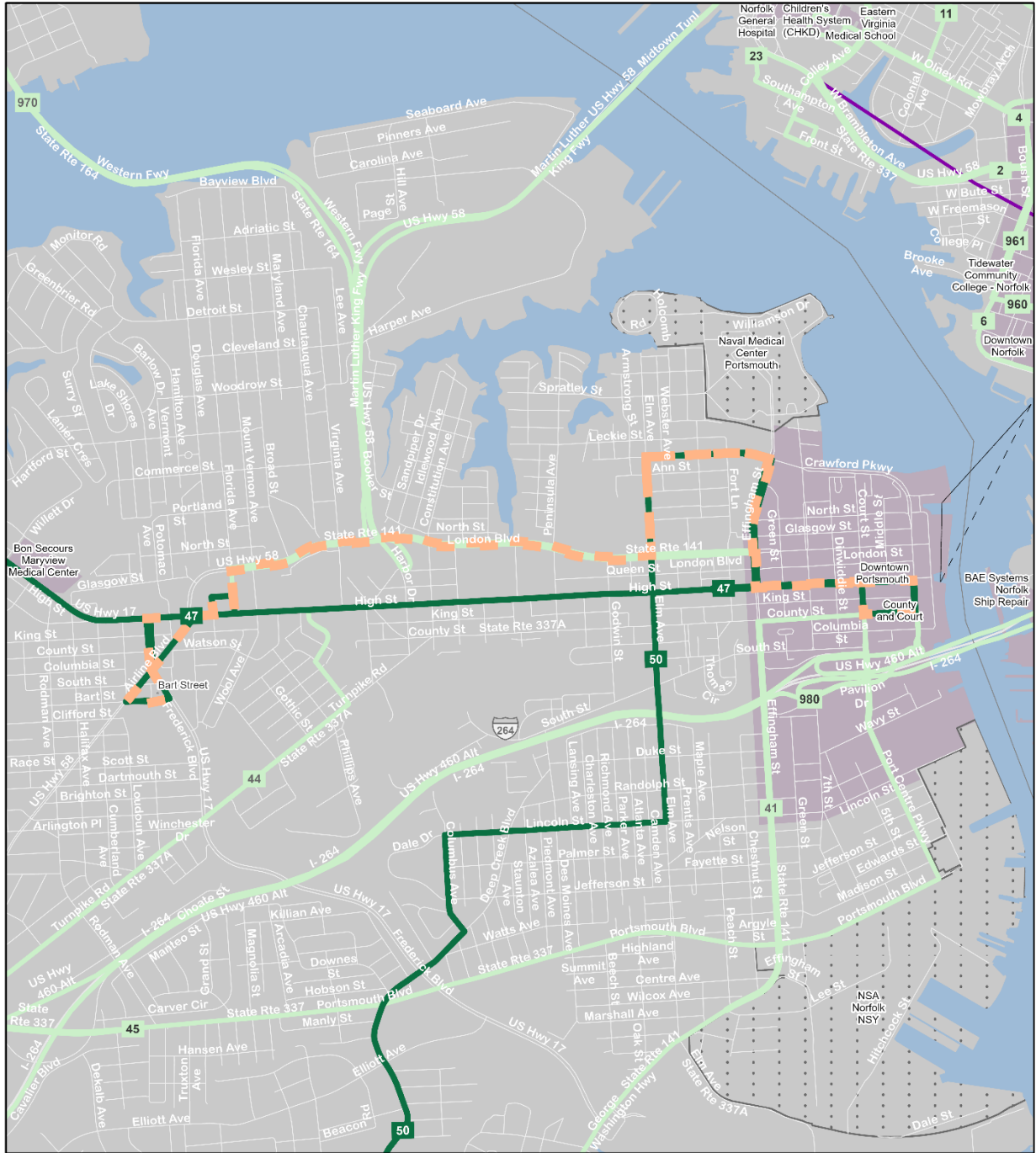
Justification

- The service changes for Routes 41, 44, and 45 work in tandem to help improve route directness for each of the routes by providing efficient services that operate along single corridors for longer distances with fewer turns. These changes will help to improve on-time performance for each of these routes and will simplify service patterns; these are characteristics which will help to improve service utilization.
- The realignment will have fewer deviations and will provide a more direct and efficient connection from Victory Crossing to Downtown Portsmouth. The minimized diversions along with greatly improved route directness will help improve the service's performance by attracting more riders while operating across fewer miles.
- The proposed alignment addresses a midday and peak service demand gap between downtown and midtown Portsmouth with a higher level of service than existing.
- The path between midtown Portsmouth and Downtown Portsmouth on Routes 41 and 45 have been "flipped" under the planned service. This service change develops two separate and more direct corridors approaching Downtown Portsmouth, one via the George Washington Parkway / Effingham Street (Route 41) and the second via Portsmouth Boulevard (Route 45).
- The service levels for Route 41 meet the service standards defined for Local Priority routes.

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 41 is realigned, streamlining service from downtown Portsmouth to Victory Crossing, with Route 45 and Route 50 covering some of the service removed from Route 41. Improve weekday span to 5:00 a.m. to 10:00 p.m. and Saturday span to 6:03 a.m. to 9:00 p.m.. Introduce Sunday service from 8:00 a.m. to 8:00 p.m. with 30-minute headways during the base period and 60-minute headways during the non-base period. Improve weekday peak, weekday midday, weekday evening, and Saturday base headways to 30 minutes.	✓		✓
FY 2025	No changes.			
FY 2026	Improve weekday and Saturday span to end at 11:00 p.m.. Improve Sunday span to 6:03 a.m. to 11:00 p.m..		✓	
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 43




Route 43

Focus Route

-  Eliminated Route
-  Routes providing replacement coverage

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 43

Service Classification	
-	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Portsmouth / Bart Street	-
Jurisdictions	Portsmouth	-

Level of Service			
Span			
		Existing	Planned
Weekday		6:36 a.m. - 6:23 p.m.	-
Saturday		6:47 a.m. - 6:01 p.m.	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	60	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 43's service area will be covered by the realigned Route 50 and Route 47. Route 43 service will no longer operate.



Justification

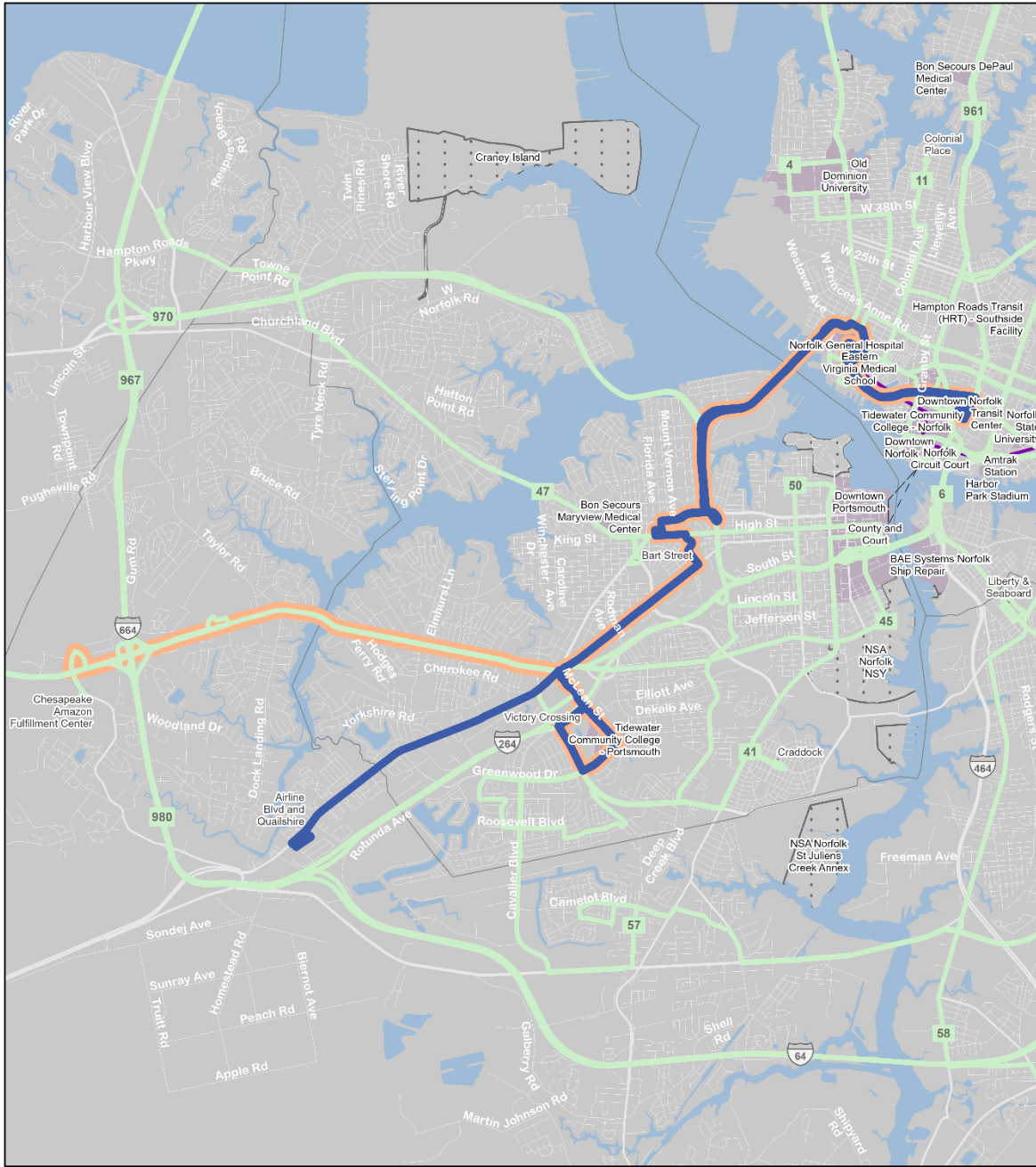
- Route 43 is among the lowest performing routes. It has consistently performed below average in the passenger per hour, farebox recovery and subsidy per passenger metrics.
- Route 43's service from County and Court to Elm Avenue and London Boulevard will be covered by the realigned Route 50, which will then extend southward towards Victory Crossing and TCC Portsmouth. This new service connection will help to provide additional one seat ride options into Downtown Portsmouth. Service on Route 50 will offer an improved span of service compared to what is currently offered on Route 43 (5:00 a.m. - 8:00 p.m. on weekdays, 6:00 a.m. - 7:00 p.m. on Saturdays, and 8:00 a.m. - 7:00 p.m. on Sundays).
- Service to Bart Street and the Walmart/Frederick Boulevard commercial area will be covered by the realigned Route 47, which will provide a significantly longer span of service than Route 43 currently offers (on weekdays it will operate between 5:00 a.m. and 1:00 a.m. and on weekends it will operate between 5:00 a.m. and midnight). Service will be offered every half hour between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area during the weekday peaks, weekday midday, and weekend base periods.

Route 43

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 43 is eliminated, with its service covered by the realigned Route 50 and realigned Route 47.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 44



Route 44

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

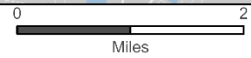
— Light Rail

--- Ferry

Military Base

Activity Center

City Boundary



Route 44

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk General Hospital / Midtown Portsmouth	Downtown Norfolk Transit Center / Airline Boulevard
Jurisdictions	Chesapeake, Norfolk, Portsmouth	Chesapeake, Norfolk, Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		6:14 a.m. - 10:04 p.m.	5:00 a.m. - 10:04 p.m.
Saturday		6:14 a.m. - 10:04 p.m.	6:05 a.m. - 10:04 p.m.
Sunday		7:00 a.m. - 7:45 p.m.	6:00 a.m. - 10:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- West of Victory Crossing, Route 44 will operate on Airline Boulevard until Sunkist Road, taking over a portion of the existing Route 57 (which is being realigned to no longer serve Airline Boulevard). Service on Portsmouth Boulevard west of Turnpike Road will no longer be offered via Route 44 but will instead be served by the realigned Route 45.
- Route 44 will operate to Tidewater Community College from 7:00 p.m. to 10:00 p.m. on weekdays.
- Weekday service will begin earlier at 5:00 a.m..
- Saturday's existing hourly service between 6:00 a.m. and 10:00 p.m. will be maintained as currently offered.
- Route 44 will be extended to serve DNTC on Sundays, as it currently does the other days of the week and the span of service on Sunday will be increased to operate from 5:00 a.m. to 10:00 p.m..
- All routes which serve Victory Crossing, including Route 44, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.



Justification

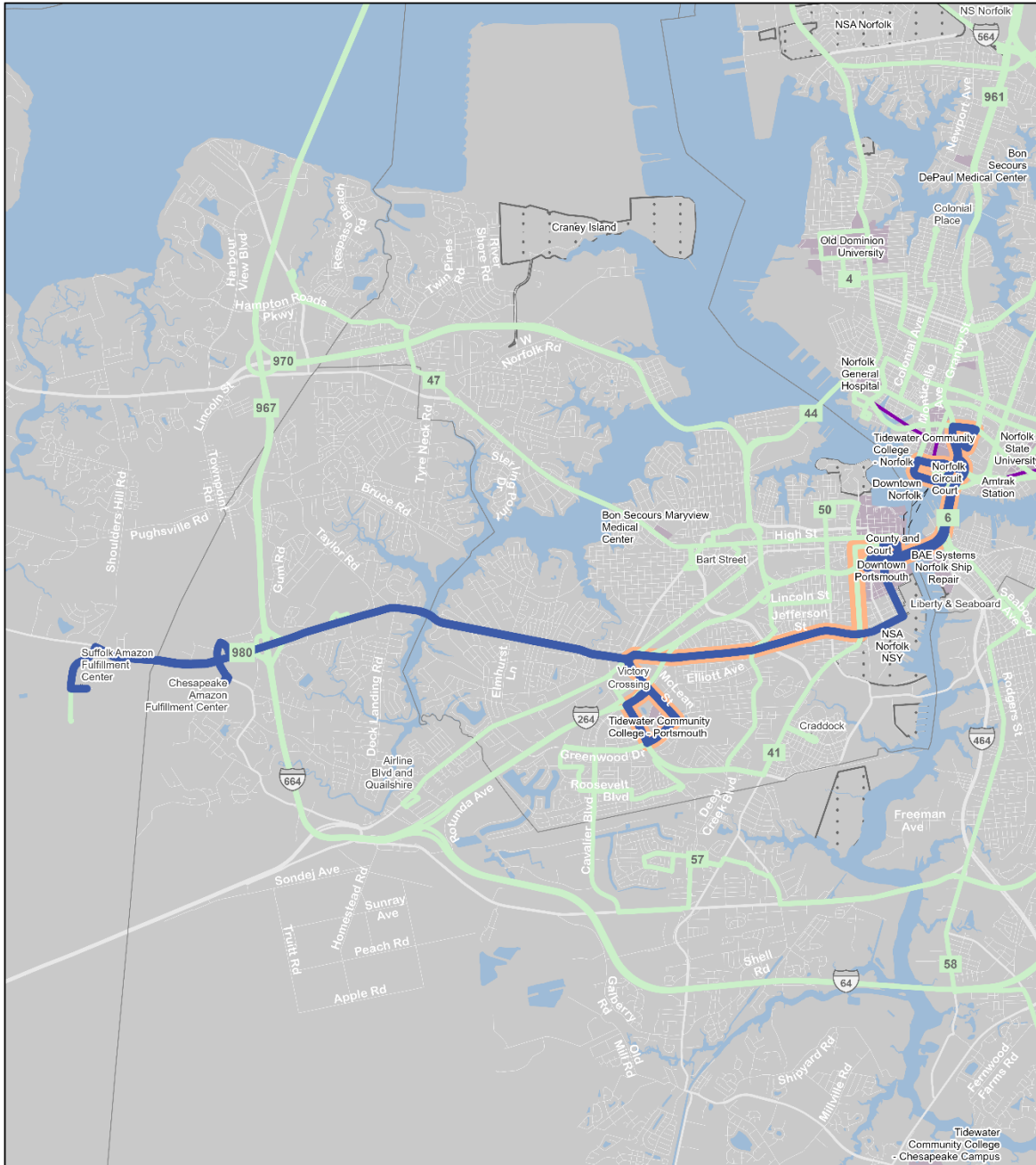
- Route 44 performs around or below average on the six Key Performance Indicators (KPI). Its low on-time performance of 63 percent, short of the benchmark of 85 percent, will be addressed by the realignment to provide more direct service along Airline Boulevard that will help to improve Route 44's performance. This alignment addresses an all-day service and peak demand gap by providing a higher level of midday and peak service in this area than is currently provided by Route 57.
- The service changes for Routes 41, 44, and 45 work in tandem to help improve route directness for each of the routes by providing efficient services that operate along single corridors for longer distances with fewer turns. These changes will help to improve on-time performance for each of these routes and will simplify service patterns; these are characteristics which will help to improve service utilization.
- High ridership on the current Route 44's early morning trips suggest Sunday service will be successful if offered earlier than the service design standards in the morning.
- The service levels for Route 44 meet or exceed the service standards defined for Coverage routes.

Route 44

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	On Sundays Route 44 is extended to serve DNTC. Improve weekday span to begin at 5:00 a.m..			
FY 2024	Route 44 is realigned. West of Victory Crossing, Route 44 will operate on Airline Boulevard until Sunkist Road, taking over a portion of the existing Route 57 (which is being realigned to no longer serve Airline Boulevard). Service on Portsmouth Boulevard west of Turnpike Road will no longer be offered via Route 44 but will instead be served by the realigned Route 45. Improve Saturday span to begin at 6:05 a.m..	✓		✓
FY 2025	No changes.			
FY 2026	Improve Sunday span to begin at 6:00 a.m..			
FY 2027	Improve Sunday span to end at 10:00 p.m..		✓	
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 45



Route 45

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 45

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk Transit Center / Victory Crossing	Downtown Norfolk Transit Center / Midtown Portsmouth
Jurisdictions	Norfolk, Portsmouth	Chesapeake, Norfolk, Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		4:39 a.m. - 11:54 p.m.	4:39 a.m. - 1:00 a.m.
Saturday		5:10 a.m. - 12:51 a.m.	5:10 a.m. - 12:51 a.m.
Sunday		6:06 a.m. - 10:51 p.m.	5:10 a.m. - 12:51 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	30
	PM Peak	15	15 / 30
	Evening	30	30 / 60
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- Route 45 will be extended to Starmount Parkway and Joliff Road to cover the eliminated segment of Portsmouth Boulevard currently served by Route 44. Seven days a week, select trips (three in the morning, three in the evening) will continue to the Amazon facilities in the Western Branch and Suffolk, along Portsmouth Blvd/Nansemond Parkway.
- In Downtown Portsmouth, Route 45 will operate via Port Centre Parkway and Portsmouth Boulevard instead of via Effingham Street and Court Street (service along these corridors will be replaced with the realigned Route 41). Transferring the service onto Port Centre Parkway will improve route directness and decrease travel time.
- Route 45 is a Regional Backbone service that will operate on weekdays between 4:39 a.m. and 1:00 a.m. between Victory Crossing, Downtown Portsmouth, and Norfolk. Route 45 will provide 15-minute service between Victory Crossing and Downtown Norfolk during a.m. and PM peak periods, with non-peak period (except late night) service being offered at half hour intervals within Portsmouth and to Norfolk. After 7:00 p.m. service will be provided to TCC Portsmouth (College/McLean).
- The existing Saturday span of service will be maintained and service will be offered every half hour between Norfolk and Victory Crossing between 6:00 a.m. and 9:00 p.m.. Service will be offered every half hour across the whole route from 8:00 a.m. to 6:00 p.m.—before and after that it will be hourly. No Saturday service will be provided to College/McLean.
- Sunday span will be extended to match Saturday and headways will be improved to match Saturday. No Sunday service will be provided to College/McLean.
- All routes which serve Victory Crossing, including Route 45, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.

Route 45



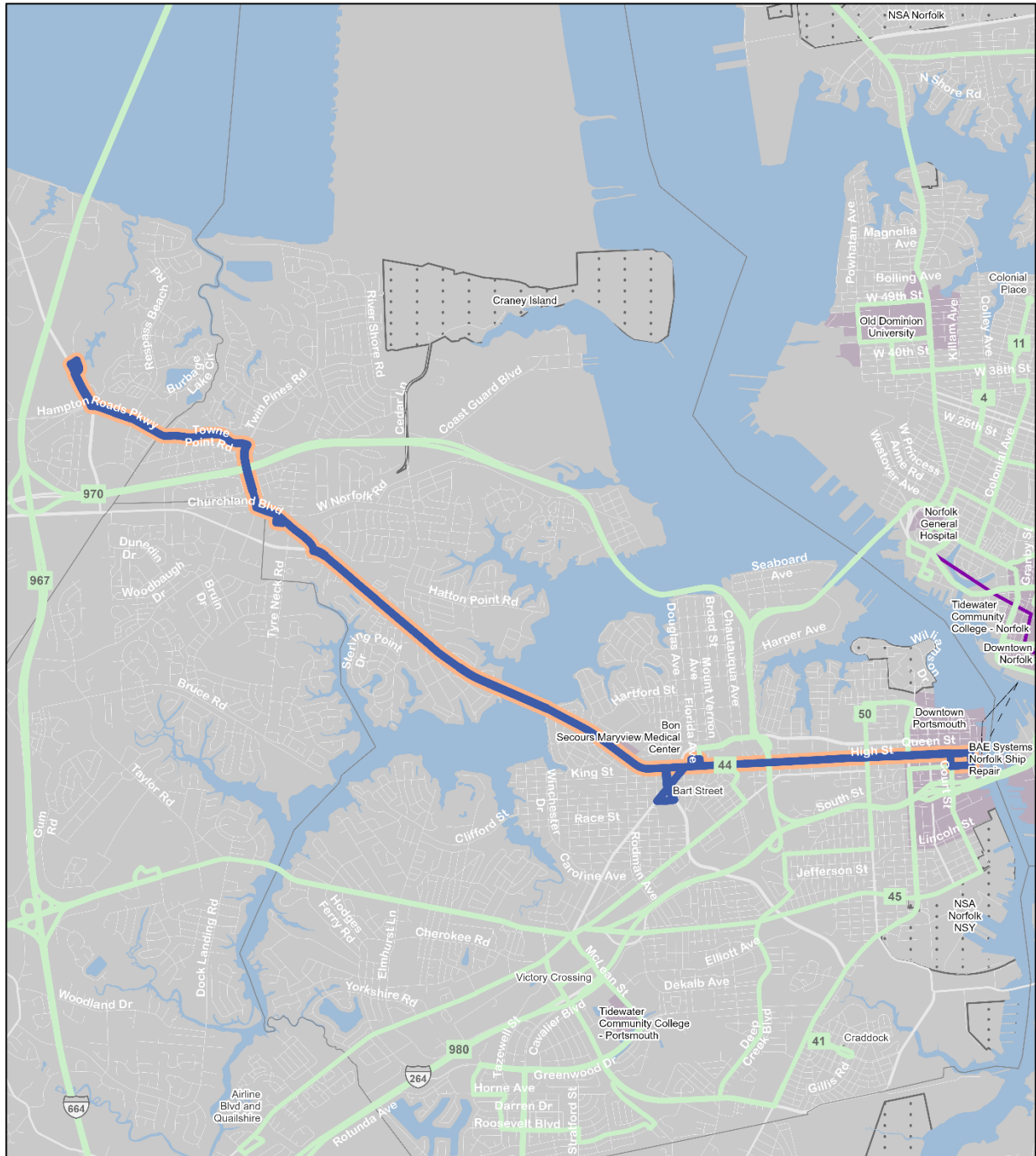
Justification

- The service changes for Routes 41, 44, and 45 work in tandem to help improve route directness for each of the routes by providing efficient services that operate along single corridors for longer distances with fewer turns. These changes will help to improve on-time performance for each of these routes and will simplify service patterns; these are characteristics which will help to improve service utilization.
- Serving the new Amazon facilities with Route 45 will connect workers from across the region to hundreds of new jobs via transit.
- The service levels for Route 45 meet the service standards defined for Regional Backbone routes.

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 45 will be extended to Starmount Parkway and Joliff Road to cover the eliminated segment of Portsmouth Boulevard currently served by Route 44. Seven days a week, select trips (three in the morning, three in the evening) will continue to the Amazon facilities in the Western Branch and Suffolk, along Portsmouth Blvd/Nansemond Parkway. In Downtown Portsmouth, Route 45 will operate via Port Centre Parkway and Portsmouth Boulevard instead of via Effingham Street and Court Street (service along these corridors will be replaced with the realigned Route 41). Improve weekday span to end at 1:00 a.m.. Improve Sunday span to 5:10 a.m. to 12:51 a.m.. Improve Sunday base and non-base headways on the short turn to 30 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 47






Route 47

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 47

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Portsmouth / Churchland	Downtown Portsmouth / Churchland
Jurisdictions	Suffolk, Portsmouth	Suffolk, Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		5:49 a.m. - 10:30 p.m.	5:00 a.m. - 1:00 a.m.
Saturday		6:03 a.m. - 10:30 p.m.	5:00 a.m. - 12:00 a.m.
Sunday		6:33 a.m. - 7:30 p.m.	5:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	30
	PM Peak	15	15 / 30
	Evening	30	30 / 60
	Late Night	-	60
Saturday	Base	30	30
	Non-Base	60	30 / 60
	Early / Late	-	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	-	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- The alignment for Route 47 will remain predominantly the same as existing, with the addition of providing service every half hour between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area during the weekday peaks, weekday midday, and weekend base periods; with the elimination of Route 43, Route 47 will continue to provide this connection at an with a longer span of service and better headways between Downtown Portsmouth and the commercial area.
- Weekday peak period service and midday service is to remain the same as existing: during weekday peak periods there will be 15-minute high-frequency service between Village Street and Churchland Boulevard and County Street and Court Street (the short turn) and 30-minute service from College Drive and Lake View Parkway to County Street and Court Street (the full length of the route). During the weekday midday period there will be 30-minute service along the full length of the route. Early and evening service will operate every 30 minutes between Village Street and Churchland Boulevard and County Street and Court Street and every 60 minutes along the full length of the route. Late night service will operate hourly along the full length of the route.
- The weekday span of service will be extended, starting at 5:00 a.m. and ending at 1:00 a.m..
- Weekend service will begin earlier at 5:00 a.m. and end later at midnight. On weekends there will be 30-minute service along the full length of the route during the base period, 30-minute service along the short turn and 60-minute service along the full length of the route in the non-base period, and hourly service in the early/late period.



Justification

- The current Route 47 service offers an important connection between Downtown Portsmouth and the neighboring City of Suffolk, enabling a direct connection to the Suffolk Transit bus system.
- The service levels for Route 47 meet the service standards defined for Regional Backbone routes.

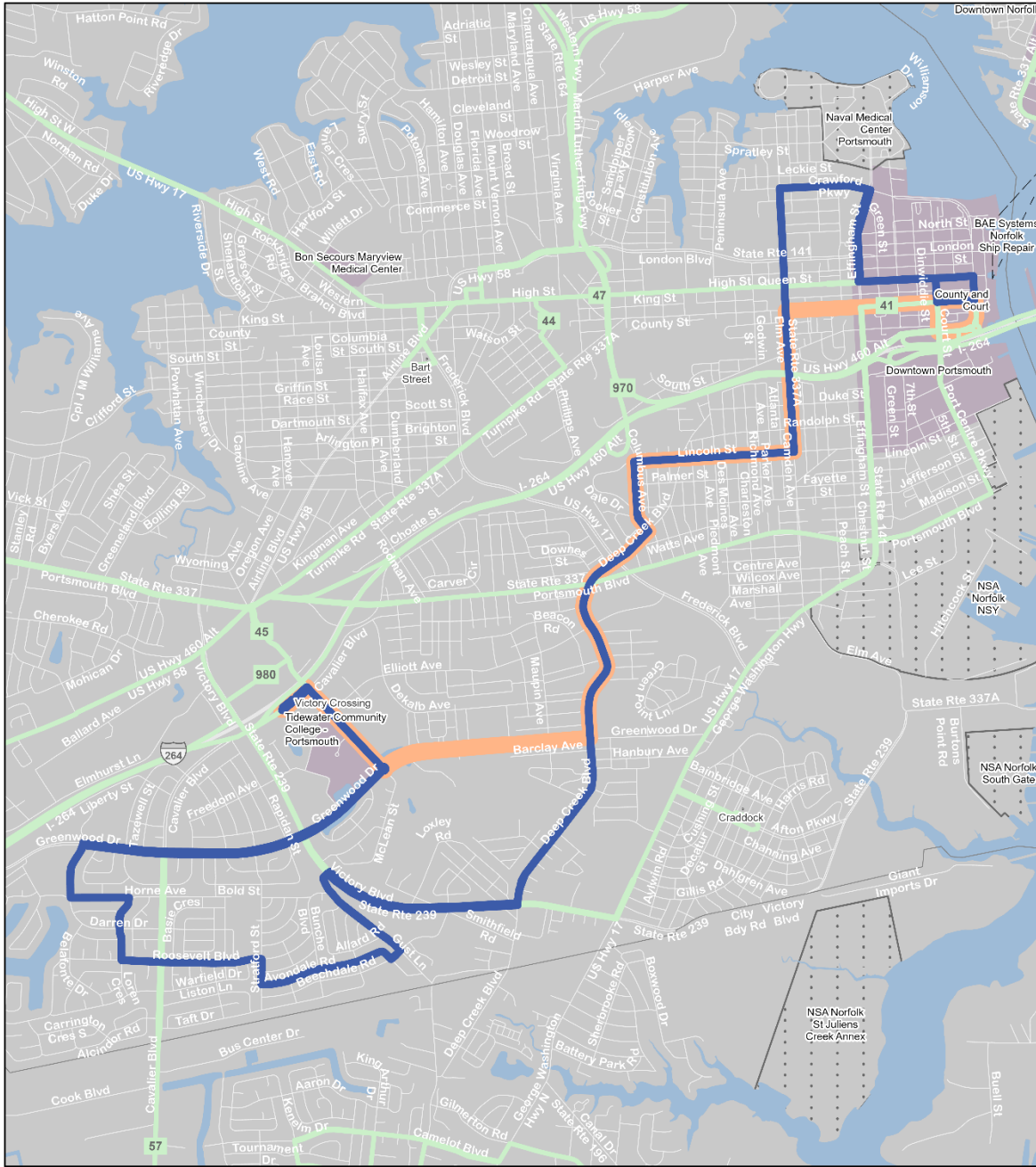
Route 47

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 47 is realigned to provide hourly service between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area; with the elimination of Route 43, Route 47 will continue to provide this connection. Improve weekday span to 5:00 a.m. to 1:00 a.m.. Improve weekend span to 5:00 a.m. to 12:00 a.m.. Improve weekday AM peak, midday, and PM peak headways to 30 minutes along the full length of the route. Service on both weekend days is now provided to College and Lakeview from 5:00 a.m. to 12:00 a.m.. On both weekend days Route 47 will serve College and Lakeview (the full length of the route) every 30 minutes from 8:00 a.m. to 6:00 p.m. and hourly for the rest of the span of service (5:00 a.m. to 8:00 a.m. and 6:00 p.m. to 12:00 a.m.). During the weekend non-base period, service is offered every 30 minutes on the short turn (between Village Street and Churchland Boulevard and County Street and Court Street).	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			



Route 50



Route 50

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

— Light Rail

--- Ferry

Military Base

Activity Center

City Boundary



Route 50

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Portsmouth / Victory Crossing	Downtown Portsmouth / Victory Crossing
Jurisdictions	Portsmouth	Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		6:03 a.m. - 6:55 p.m.	5:00 a.m. - 8:00 p.m.
Saturday		7:03 a.m. - 6:29 p.m.	6:00 a.m. - 7:00 p.m.
Sunday		7:00 a.m. - 6:20 p.m.	8:00 a.m. - 7:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	-	60
	Early / Late	-	-
Sunday	Base	60	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- Route 50 will be realigned to cover the eliminated portion of Route 43 in the Parkview area and an eliminated portion of Route 41 serving Roosevelt Boulevard and Vaughn Court. As a Coverage route, Route 50 will provide hourly service connecting neighborhoods in Portsmouth, freeing up other routes to provide more direct and frequent service between Portsmouth and Norfolk. There will no longer be service on Greenwood Drive between McLean and Deep Creek or on County Street between Elm Avenue and Effingham Street.
- Weekday service will be offered hourly between 5:00 a.m. and 8:00 p.m., which provides one earlier hour of service in the morning and one later hour of service in the evening than existing.
- Saturday service will be offered hourly from 6:00 a.m. to 7:00 p.m. to provide service consistent with existing Saturday service on Routes 41, 43, and 50.
- Sunday service will be offered hourly from 8:00 a.m. to 7:00 p.m., providing a longer span of service than existing.
- All routes which serve Victory Crossing, including Route 50, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.



Justification

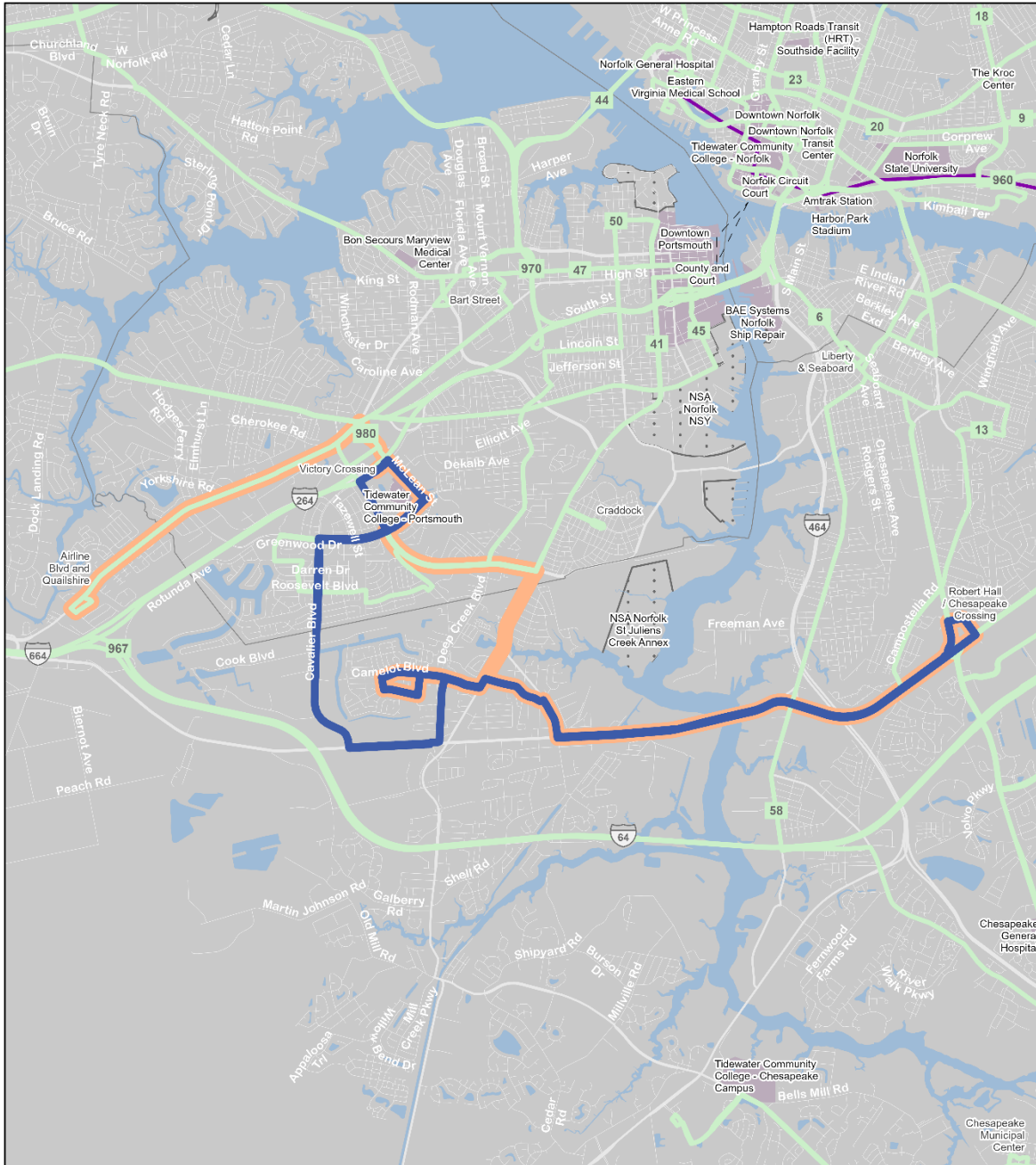
- Route 50 performs around or below average on the six Key Performance Indicators (KPI). The Route 50 realignment will provide Coverage level service to several Portsmouth neighborhoods and will increase service connections through the Naval Medical Center Portsmouth and Downtown Portsmouth (in accordance with the elimination of the current Route 43 service).
- The service change will create a slightly increased span of service, which will help to grow route utilization by providing earlier and later service options, an attractive feature to potential passengers.
- The service levels for Route 50 meet the service standards defined for Coverage routes.

Route 50

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 50 is realigned to cover the eliminated portion of Route 43 in the Parkview area and an eliminated portion of Route 41 serving Roosevelt Boulevard and Vaughn Court. As a Coverage route, Route 50 will provide hourly service connecting neighborhoods in Portsmouth, freeing up other routes to provide more direct and frequent service between Portsmouth and Norfolk. There will no longer be service on Greenwood Drive between McLean and Deep Creek or on County Street between Elm Avenue and Effingham Street. Improve Saturday span to 6:00 a.m. to 7:00 p.m.. Change Sunday span to start at 8:00 a.m..	✓		✓
FY 2025	Improve weekday span to 5:00 a.m. to 8:00 p.m.. Improve Sunday span to end at 7:00 p.m..		✓	
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 57



Route 57

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

— Light Rail

 Ferry

Military Base

Activity Center

City Boundary



Route 57

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Robert Hall Boulevard / Airline Boulevard	Robert Hall Boulevard / Victory Crossing
Jurisdictions	Chesapeake, Portsmouth	Chesapeake, Portsmouth

Level of Service			
Span			
		Existing	Planned
	Weekday	6:19 a.m. - 7:17 p.m.	5:00 a.m. - 8:00 p.m.
	Saturday	6:18 a.m. - 7:19 p.m.	6:18 a.m. - 7:19 p.m.
	Sunday	-	8:00 a.m. - 7:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-
Sunday	Base	-	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- Service will continue to operate in the Camelot area but will be realigned onto Deep Creek Boulevard, Military Highway, and Cavalier Boulevard to serve the industrial park. Route 57 will then continue north and terminate at Victory Crossing, providing transfer opportunities to many other routes. Service on Route 57 will be discontinued on Airline Boulevard between Victory Boulevard and Sunkist Road, replaced by the realigned Route 44. Service on Route 57 will be discontinued on High Street and Victory Boulevard, with service on Victory Boulevard being covered by Route 41.
- Weekday service will be offered hourly between 5:00 a.m. and 8:00 p.m., providing an expanded service day to allow for more cross-jurisdictional travel in the evening.
- Saturday span and headway will be maintained. Sunday service will be introduced, providing hourly service between 8:00 a.m. and 7:00 p.m..
- All routes which serve Victory Crossing, including Route 57, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.



Justification

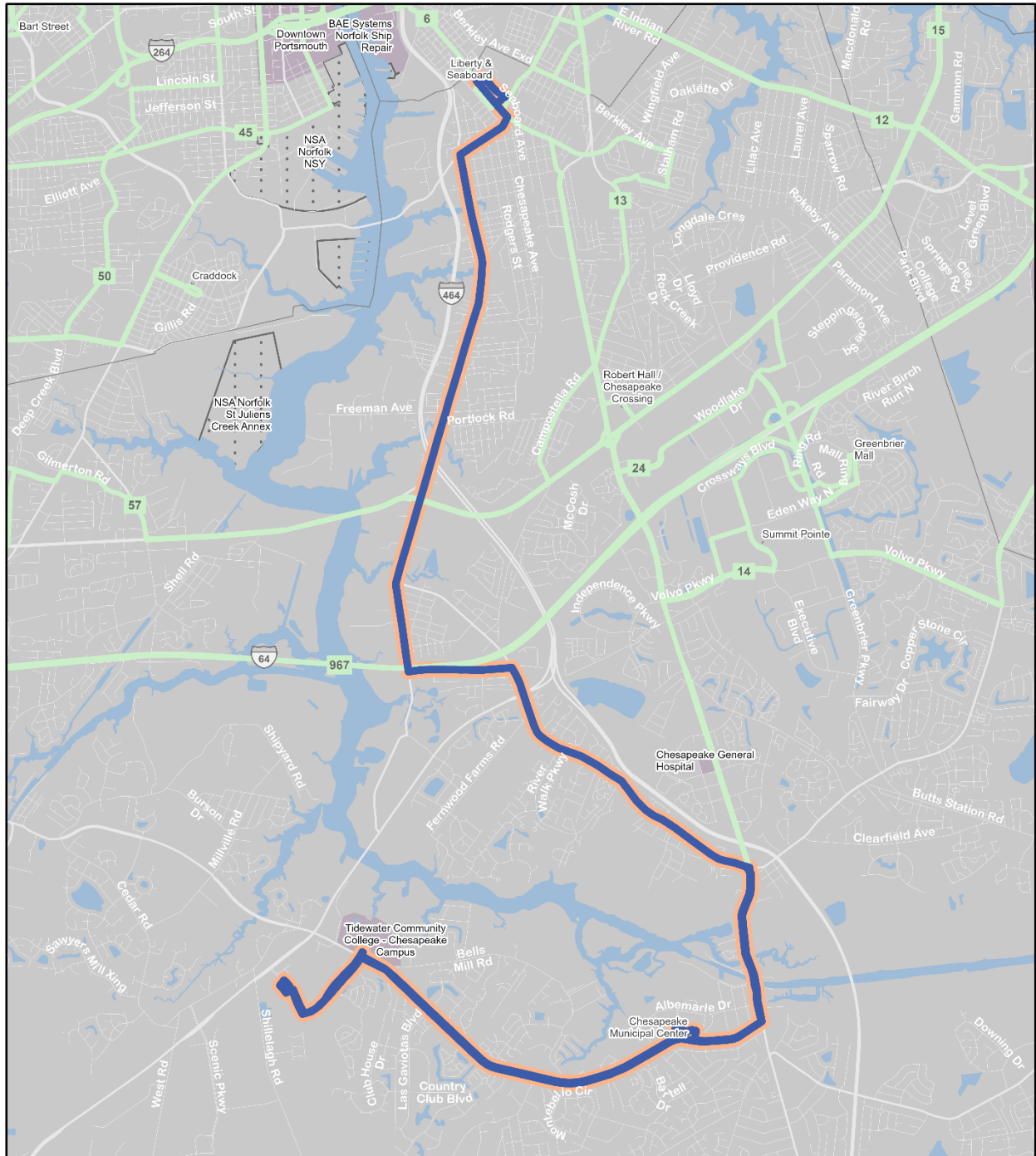
- Route 57 performs around or below average on the six Key Performance Indicators (KPI); however, the existing connection that Route 57 provides between Portsmouth and Chesapeake is vital in providing a cohesive network of transit options. The service changes for Route 57 will help streamline service, providing shorter overall travel times and improved on-time performance. These changes will improve the attractiveness of the route which will help to increase service utilization.
- The service levels for Route 57 meet the service standards defined for Coverage routes.

Route 57

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 57 will be realigned onto Deep Creek Boulevard, Military Highway, and Cavalier Boulevard to serve the industrial park. Route 57 will then continue north and terminate at Victory Crossing, providing transfer opportunities to many other routes. Service on Route 57 will be discontinued on Airline Boulevard between Victory Boulevard and Sunkist Road, replaced by the realigned Route 44. Service on Route 57 will be discontinued on High Street and Victory Boulevard, with service on Victory Boulevard being covered by Route 41.	✓		
FY 2025	No changes.			
FY 2026	Improve weekday span to end at 8:00 p.m..			
FY 2027	Improve weekday span to start at 5:00 a.m..			
FY 2028	No changes.			
FY 2029	Introduce Sunday service from 8:00 a.m. to 6:00 p.m., operating hourly.			✓
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	Improve Sunday span to end at 7:00 p.m..			
Out Years	Improve weekday span to end at 9:30 p.m..		✓	




Route 58






Route 58

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 58

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	South Norfolk / Bainbridge Boulevard / Chesapeake Municipal Center / TCC Chesapeake	South Norfolk / Bainbridge Boulevard / Chesapeake Municipal Center / TCC Chesapeake
Jurisdictions	Chesapeake	Chesapeake

Level of Service			
Span			
		Existing	Planned
	Weekday	5:48 a.m. - 7:10 p.m.	5:00 a.m. - 7:10 p.m.
	Saturday	5:48 a.m. - 7:10 p.m.	5:48 a.m. - 7:10 p.m.
	Sunday	-	-
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No changes from existing service alignment (the alignment was recently updated in November 2021 to no longer serve Robert Hall, serve Great Bridge Boulevard, and extend service to TCC Chesapeake).
- Weekday service will begin earlier at 5:00 a.m. with hourly service. Saturday span will be maintained with hourly service.



Justification

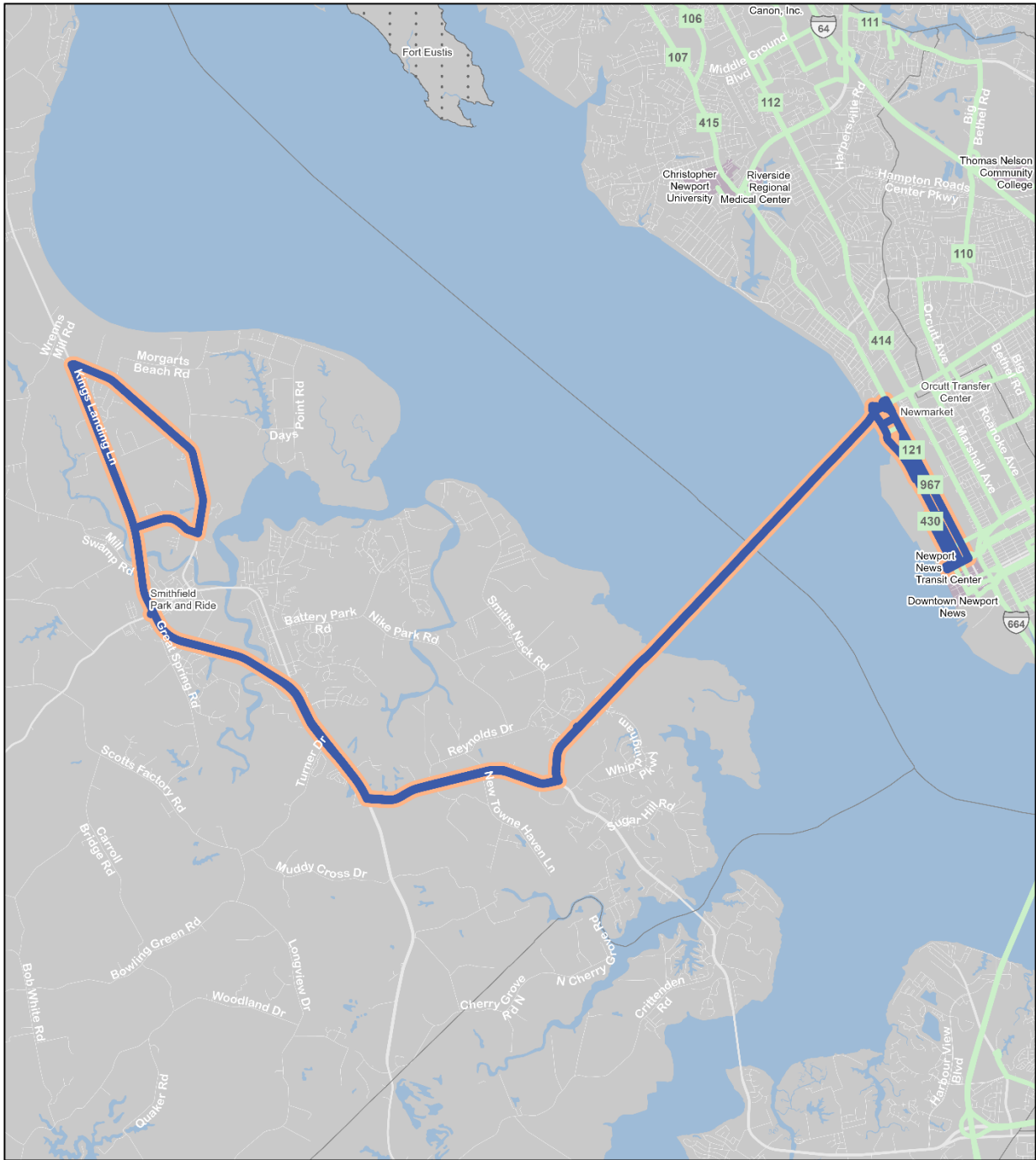
- The service levels for Route 58 will not yet meet the service standards defined for Coverage routes until Sunday service is introduced (as noted in the out years in the table on the next page).

Route 58

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	Improve weekday span to begin at 5:00 a.m..			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	Introduce hourly Sunday service from 8:00 a.m. to 7:00 p.m..		✓	✓




Route 64






Route 64

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 64

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News / Smithfield	Newport News / Smithfield
Jurisdictions	Newport News, Isle of Wight	Newport News, Isle of Wight

Level of Service			
Span			
	Existing	Planned	
Weekday	5:00 a.m. - 6:32 a.m.; 3:40 p.m. - 5:30 p.m.	5:00 a.m. - 6:32 a.m.; 3:40 p.m. - 5:30 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	4 Trips	4 Trips
	AM Peak		-
	Midday		-
	PM Peak	4 Trips	4 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No schedule or alignment changes.

Justification

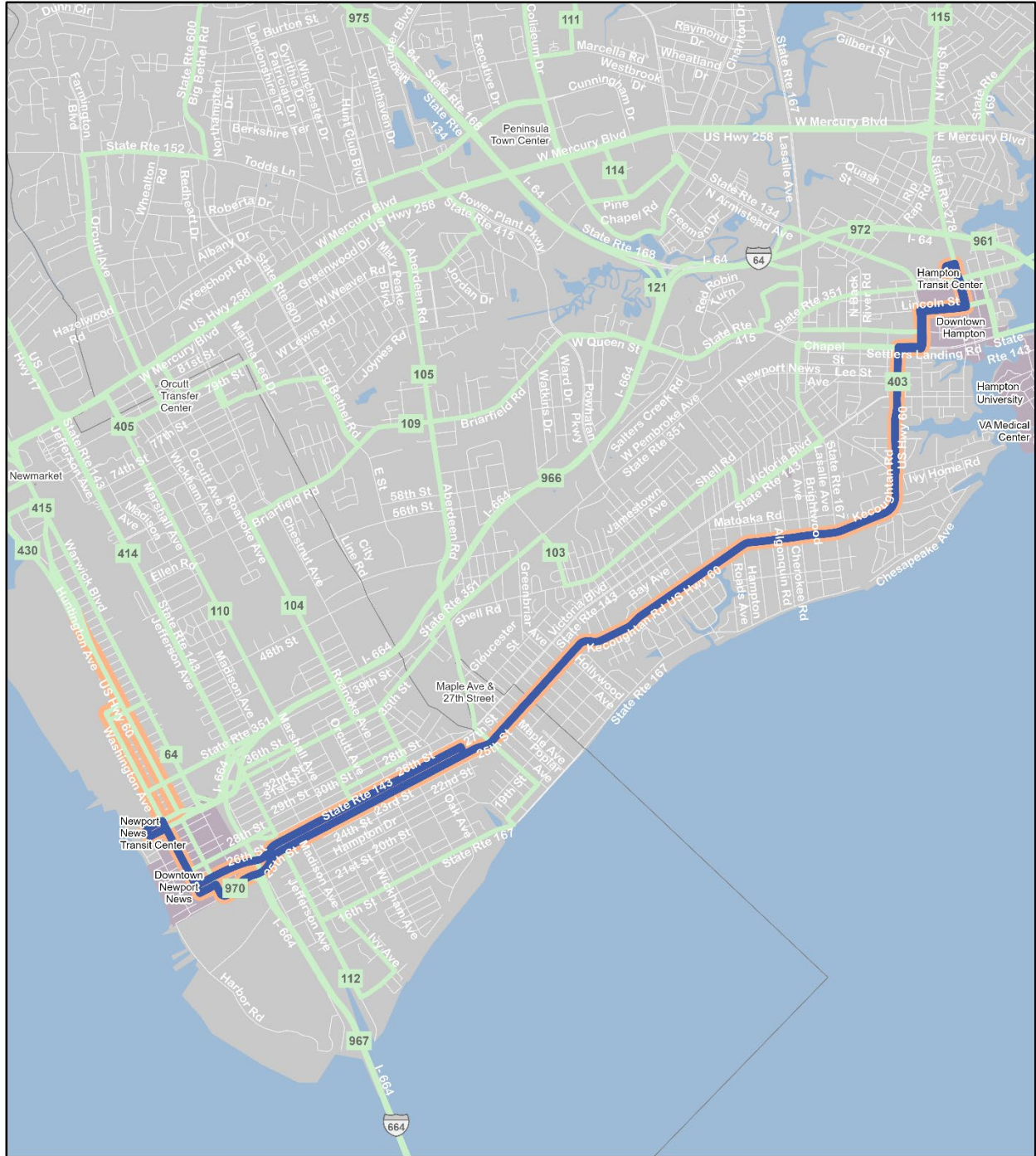
- Route 64 service will remain unchanged from what is currently offered.

Route 64

Improvements by Year


Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes from existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 101



Route 101

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 101

Service Classification
Regional Backbone

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Kecoughtan) Downtown Newport News / Downtown Hampton	(Kecoughtan) Downtown Newport News / Downtown Hampton
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	5:15 a.m. - 12:10 a.m.	5:00 a.m. - 1:00 a.m.	
Saturday	5:15 a.m. - 12:10 a.m.	5:15 a.m. - 12:10 a.m.	
Sunday	5:45 a.m. - 8:08 p.m.	5:15 a.m. - 12:10 a.m.	
Headway			
	Existing	Planned	
Weekday	Early	30	30
	AM Peak	35	15
	Midday	35	30
	PM Peak	35	15
	Evening	60	30
	Late Night	60	60
Saturday	Base	35	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	-	60

Service Changes

- Route 101 will operate between the Newport News Transfer Center (NNTC) and Hampton Transfer Center (HTC), no longer serving Northgate (the current 3:40 p.m. trip will be provided by an additional trip on Route 403).
- Weekday service will be offered between 5:00 a.m. and 1:00 a.m., which is a slightly later end time than currently offered on the Route 101.
- Service during the weekday peak periods will be offered every 15 minutes. During the weekday early, midday, and evening periods, service will be offered every 30 minutes, and hourly service in the late night period.
- On weekends, Sunday service is expanded to match current Saturday levels of service from 5:15 a.m. to 12:10 a.m., with 30-minute headways from 6:00 a.m. to 9:00 p.m. and 60-minute headways during other times.



Justification

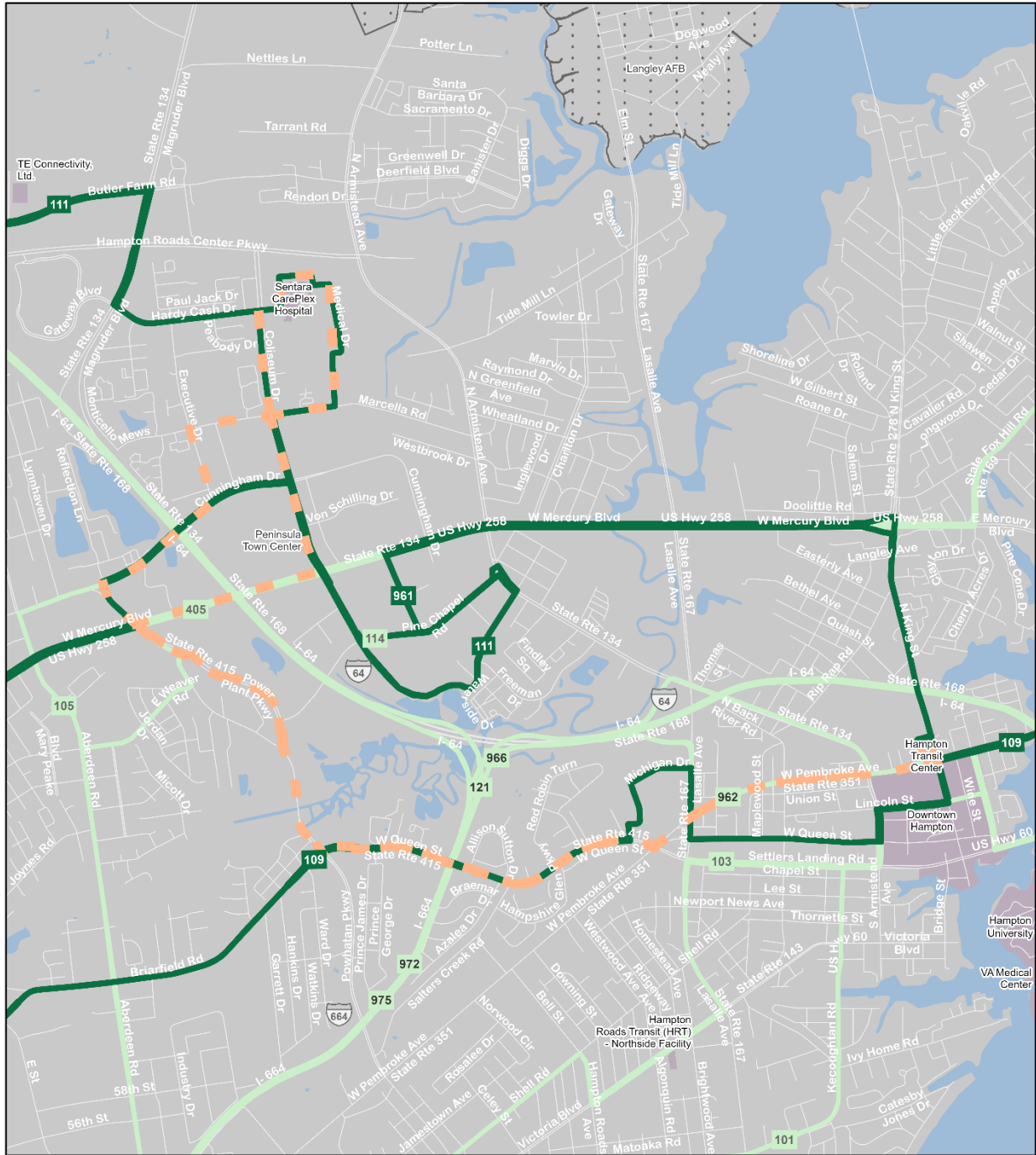
- Route 101 performs well on the six Key Performance Indicators (KPI) and warrants an increase in service.
- The service levels for Route 101 meet the service standards defined for Regional Backbone routes.

Route 101

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 101 will operate between the Newport News Transfer Center (NNTC) and Hampton Transfer Center (HTC), no longer serving Northgate (the current 3:40 p.m. trip will be provided by an additional trip on Route 403). Improve weekday span to 5:00 a.m. to 1:00 a.m. and Sunday span to 5:15 a.m. to 12:10 a.m.. Improve weekday peak headways to 15 minutes. Improve weekday midday, weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base headways to 30 minutes.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 102



Route 102

Focus Route

- Eliminated Route
- Routes providing replacement coverage

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 102

Service Classification		
-		

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Coliseum) Peninsula Town Center / Downtown Hampton	-
Jurisdictions	Hampton	-

Level of Service			
Span			
		Existing	Planned
Weekday		6:19 a.m. - 8:10 p.m.	-
Saturday		7:19 a.m. - 7:10 p.m.	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	60	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 102 will be eliminated due to poor performance and the realignment of other nearby routes to cover much of the route's service. Routes 109 and 111 will provide similar connections that the 102 provides, with Route 109 operating on W Queen Street and Route 111 operating on Coliseum Drive and into the Sentara CarePlex facility. Route 111 southbound service will operate on Coliseum Dr between Hardy Cash Dr and Marcella Rd; bi-directional service on Route 111 will be available nearby at Sentara CarePlex and on Marcella Rd.
- Executive Dr between Marcella Rd and Cunningham Dr will lose service but service will be available nearby on Route 114 on Cunningham Dr.
- Segments of Power Plant Parkway and Pembroke Avenue losing service have low transit demand and are also within a half mile of other routes.



Justification

- Route 102 performs within the lowest third of routes on the six Key Performance Indicators (KPI) and as a result will be eliminated, with the resources from this eliminated service being used to further transit development elsewhere in Hampton.

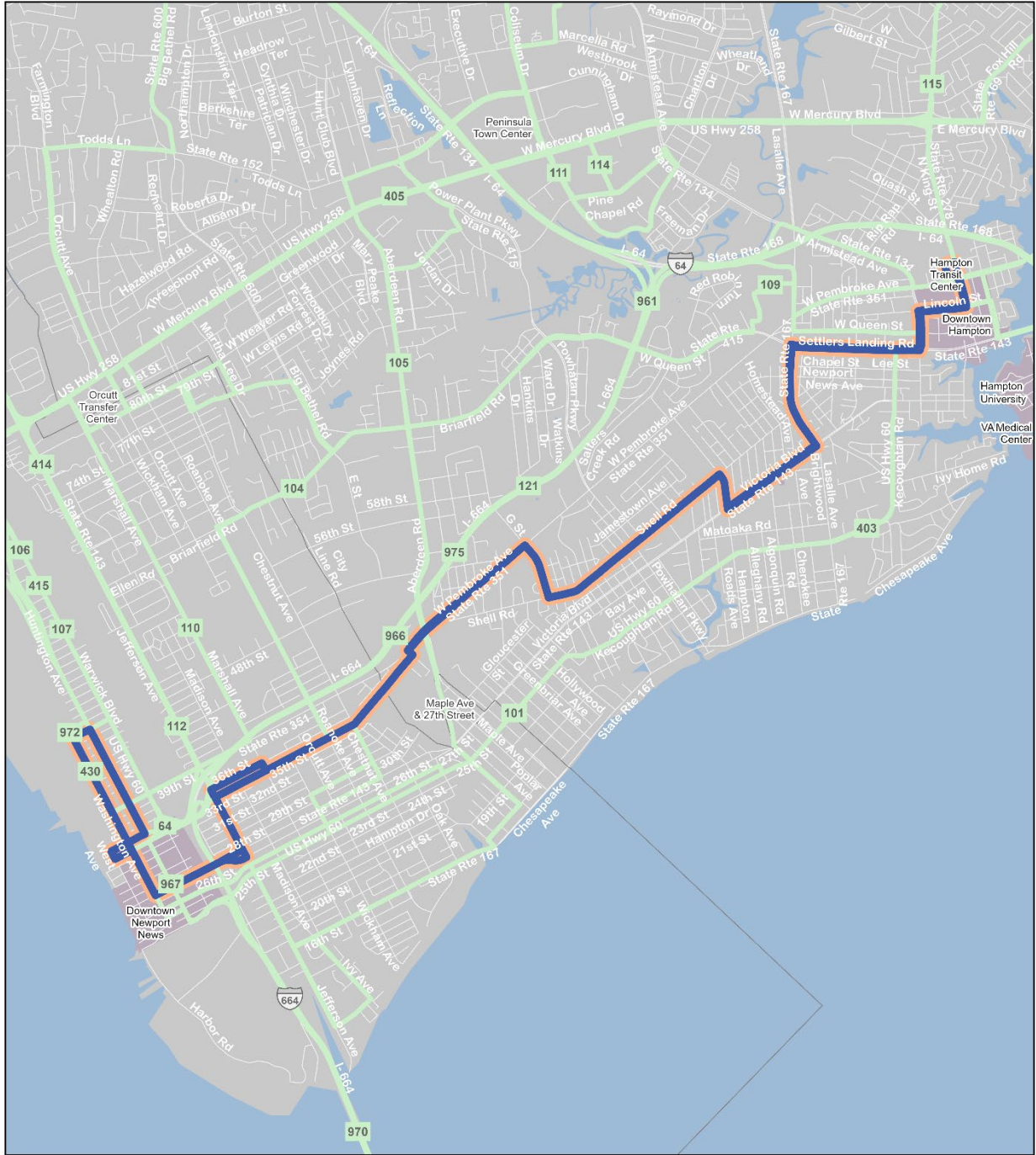
Route 102

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 102 will be eliminated. Routes 109 and 111 will provide similar connections that the 102 provides, with Route 109 operating on W Queen Street and Route 111 serving the Sentara CarePlex Hospital complex.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			








Route 103



Route 103

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 103

Service Classification
Local Priority

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Hampton / Downtown Newport News	Downtown Hampton / Downtown Newport News
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	5:15 a.m. - 11:52 p.m.	5:00 a.m. - 11:52 p.m.	
Saturday	5:15 a.m. - 11:52 p.m.	5:15 a.m. - 11:52 p.m.	
Sunday	7:15 a.m. - 7:52 p.m.	7:00 a.m. - 11:00 p.m.	
Headway			
	Existing	Planned	
Weekday	Early	30	30
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	30	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- No change to existing service alignment.
- The weekday and Sunday spans of service will be lengthened. Sunday base headways will be improved to 30 minutes.



Justification

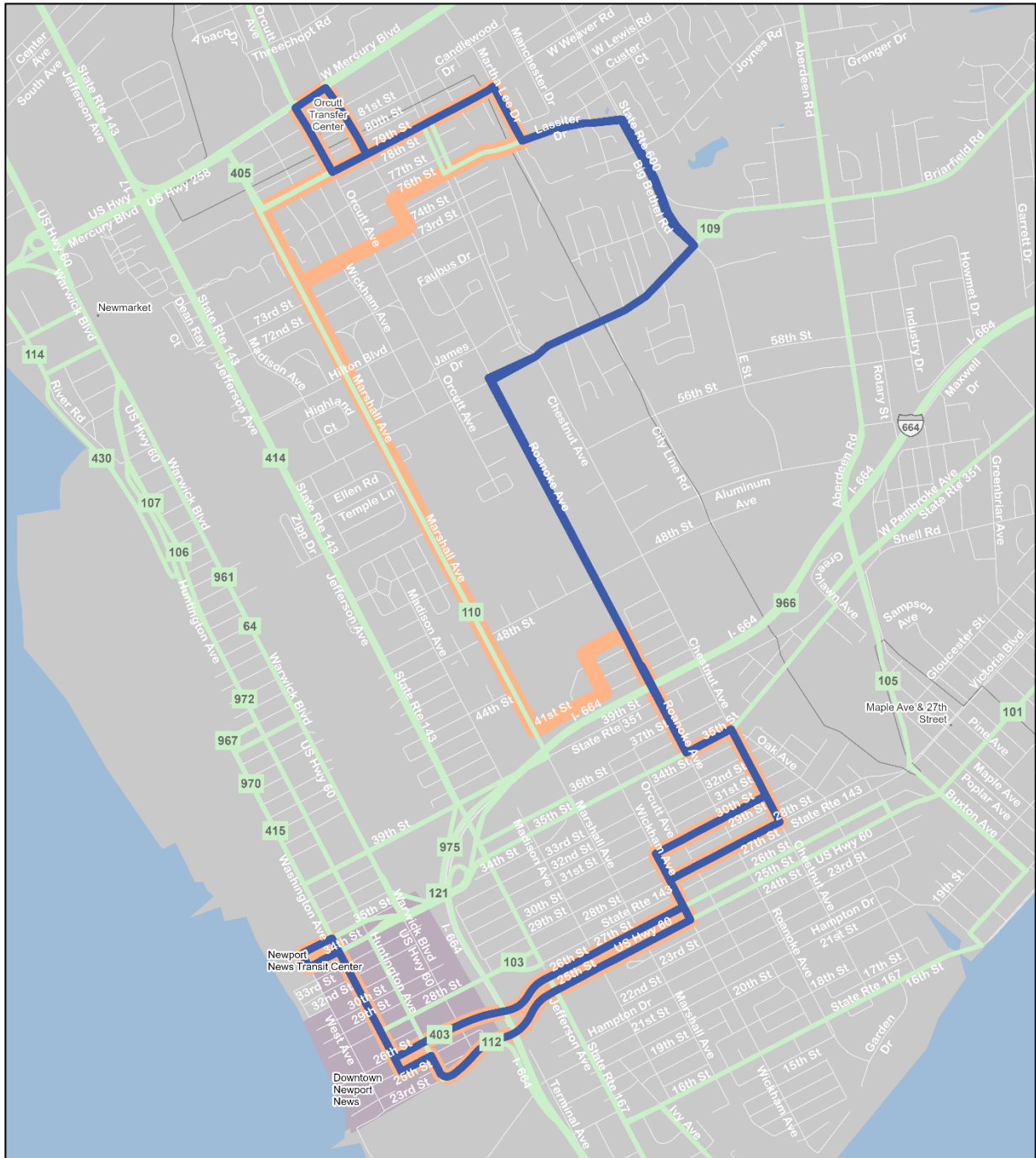
- Route 103 performs around average on the six Key Performance Indicators (KPI).
- The service levels for Route 103 meet the service standards defined for Local Priority routes

Route 103

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	Improve weekday span to begin at 5:00 a.m.. Improve Sunday base headway to 30 minutes.			✓
FY 2030	Improve Sunday span to 7:00 a.m. to 11:00 p.m..		✓	
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 104






Route 104

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 104

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Marshall) Downtown Newport News / Newmarket	(Roanoke) Downtown Newport News / Newmarket
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:45 a.m. - 10:41 p.m.	5:00 a.m. - 11:00 p.m.
Saturday		5:45 a.m. - 10:41 p.m.	6:00 a.m. - 11:00 p.m.
Sunday		5:45 a.m. - 7:43 p.m.	6:00 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	60
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	30	60
	Late Night	-	-
Saturday	Base	30	60
	Non-Base	30	60
	Early / Late	60	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60

Service Changes

- Route 104 will be realigned from serving 41st Street and Marshall Avenue to Roanoke Avenue instead. It will then travel east on Briarfield Road, north on Big Bethel Road, west on Lassiter Drive, north on Martha Lee Drive, west on 79th Street, and north on Orcutt Avenue. Route 110 will operate along the segment of Marshall Road currently served by Route 104.
- Weekday service will be offered from 5:00 a.m. to 11:00 p.m.. Service will be offered every half hour between 6:00 a.m. and 6:00 p.m., with hourly service otherwise.
- On weekends, the span of service will be adjusted to 6:00 a.m. to 11:00 p.m., with hourly service throughout the day.



Justification

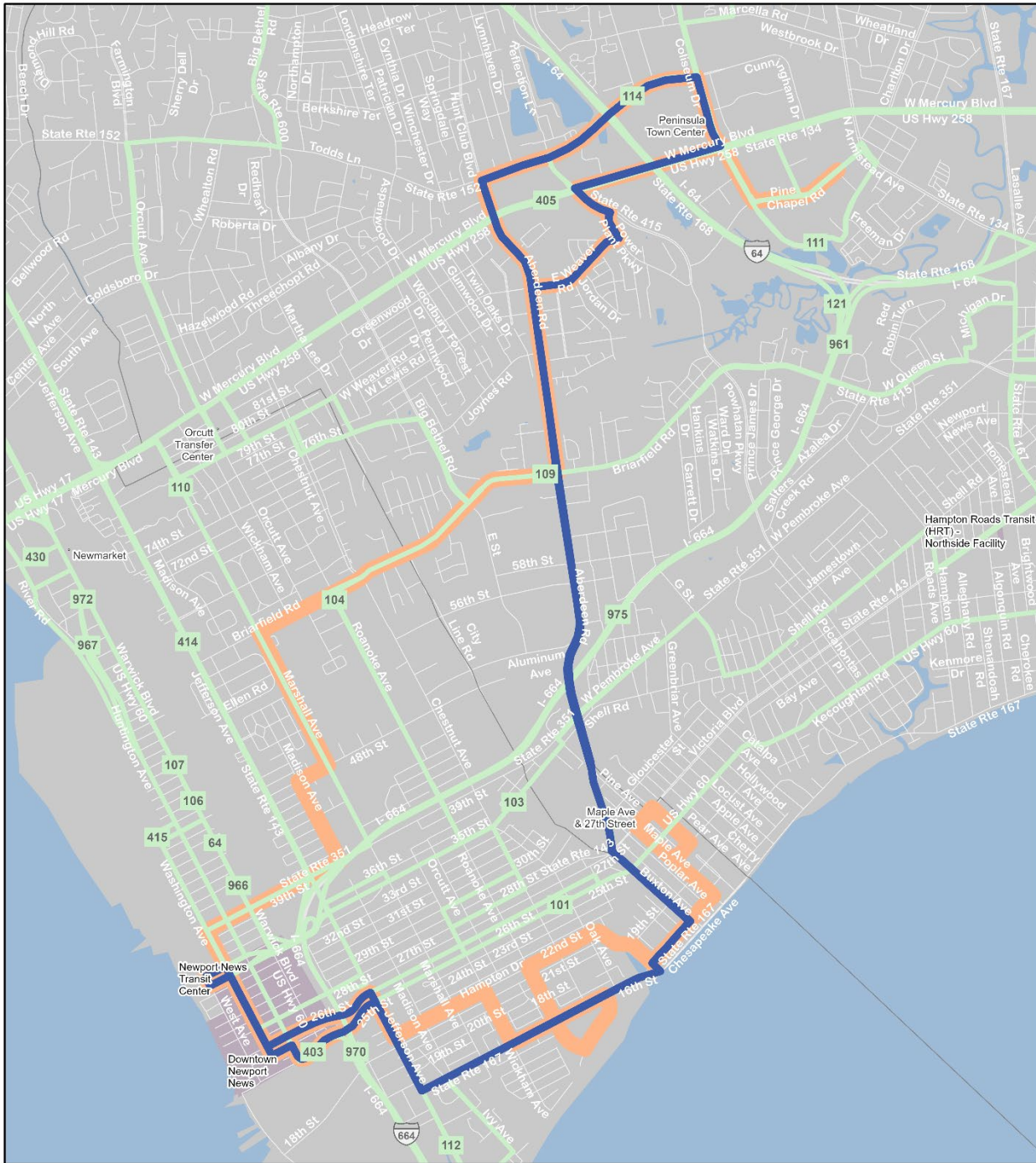
- Route 104 performs around average on the six Key Performance Indicators (KPI). The alignment and level of service changes were designed to improve the route's performance.
- The current Route 104 operates along several different corridors within Newport News. Route 104 will operate along a more streamlined alignment between Orcutt and the Newport News Transit Center, offering fewer turns and a simplified alignment which will help make the route easier to understand for all users and make the operations more efficient.
- The alignment changes to Route 104 were developed in concert with service changes to Route 105 and Route 110 to improve route directness and on-time performance, and to create routes that are simpler to understand.
- The service levels for Route 104 meet the service standards defined for Coverage routes.

Route 104

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 104 will be realigned from serving 41st Street and Marshall Avenue to continue on Roanoke Avenue, then travel east on Briarfield Road, north on Big Bethel Road, west on Lassiter Drive, north on Martha Lee Drive, west on 79th Street, and north on Orcutt Avenue. Route 110 will operate along the segment of Marshall Road currently served by Route 104. Improve weekday span to 5:00 a.m. to 11:00 p.m.. Change Saturday and Sunday span to 6:00 a.m. to 11:00 p.m.. Change Saturday base, Saturday non-base, weekday early, and weekday evening headways to 60 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 105



Route 105

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 105

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Maple Avenue & 27th Street / Peninsula Town Center	Downtown Newport News / Peninsula Town Center
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	6:12 a.m. - 12:13 a.m.	5:00 a.m. - 12:13 a.m.
	Saturday	6:15 a.m. - 12:13 a.m.	6:15 a.m. - 12:13 a.m.
	Sunday	8:15 a.m. - 8:13 p.m.	6:15 a.m. - 12:13 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	-	60
	Early / Late	-	60

Service Changes

- Route 105 will travel via a more direct path between the Peninsula Town Center / Riverdale Plaza Shopping Center and NNTC. Where the existing route currently travels onto Briarfield Road from Aberdeen Road, the service will remain on Aberdeen Road / Buxton Avenue, will then travel on Blair Avenue and 16th Street, then end at NNTC.
- Service along Maple Avenue, Hampton Avenue, and Garden Drive will be eliminated. The realigned Route 110 will provide service along Marshall Avenue. The realigned Route 104 will operate on Briarfield Road between Roanoke Avenue and Big Bethel Road. Other portions of Briarfield Road will lose service from Route 105 but will be mostly covered by the realigned Routes 104 and 109.
- The existing Route 105 tripper from Pine Chapel and Barrack will be eliminated.
- Weekday service will begin at 5:00 a.m.. During the weekday peak periods and weekday midday, service will be offered every half hour. Service will be offered hourly through the rest of the service day.
- The Saturday span of service will remain the same and 30-minute service will be offered during the base period. Sunday levels of service will be increased to match Saturday service.



Justification

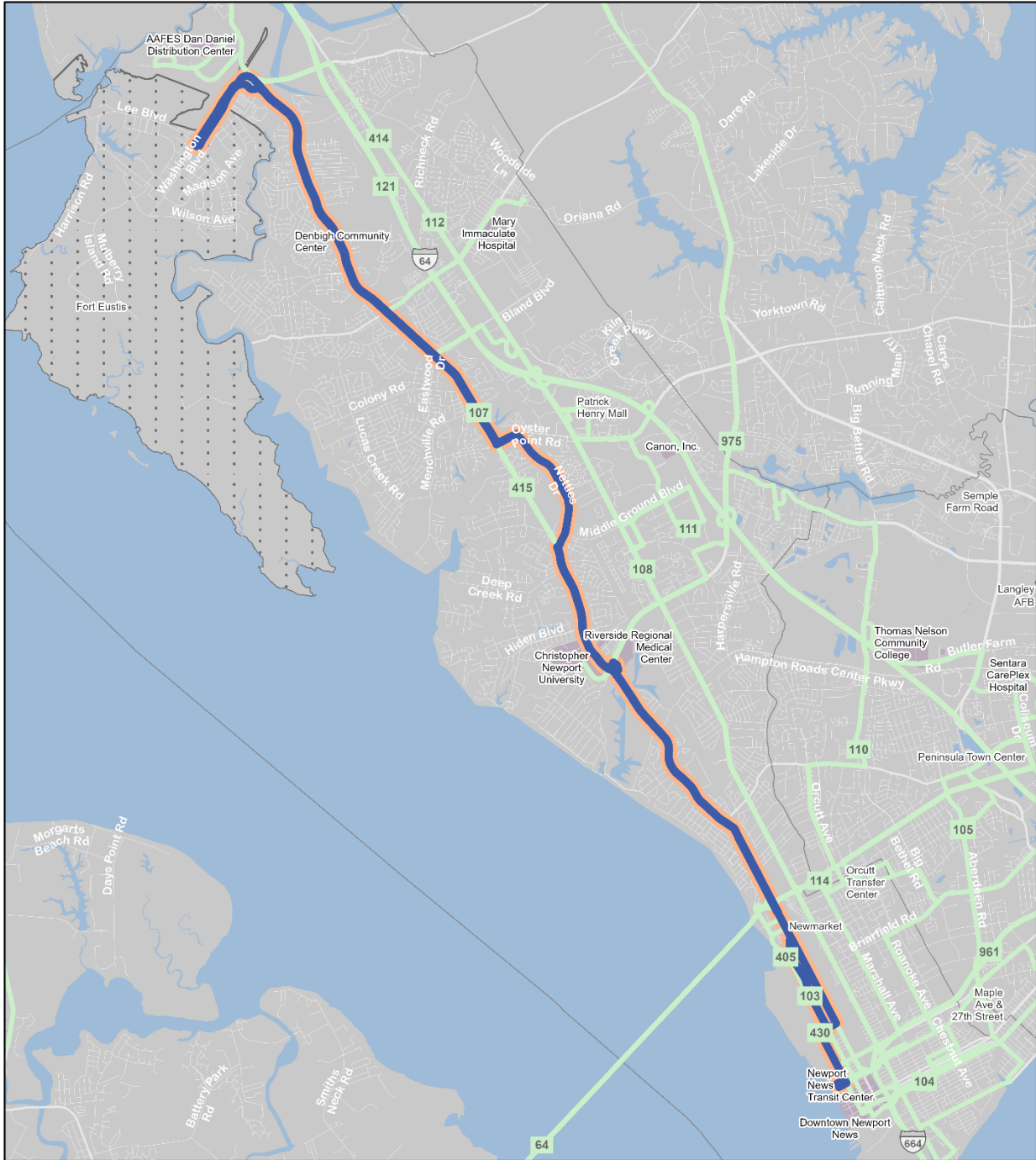
- Route 105 performs above average on the six KPIs. To increase ridership on an already well-performing route, its level of service will be increased, and the realignment will provide more direct and efficient service.
- Route 105's realignment provides more direct service between Peninsula Town Center and Downtown Newport News via Aberdeen Road, compared to its existing circuitous route pattern. Adjustments to Route 104 and Route 110 will provide coverage through much of the areas no longer served by Route 105, allowing for more efficient service in these areas. A more simplified routing through the Wilson, Magruder, Reed, and Marshall communities is also planned, which may require short walks to access the service, but which will help to provide shorter overall trip times and improved on time performance.
- The alignment changes to Route 105 were developed in concert with service changes to Route 104 and Route 110 to improve route directness and on-time performance, and to create routes that are simpler to understand.
- The service levels for Route 105 meet the service standards defined for Local Priority routes.

Route 105

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 105 will travel via a more direct path between the Peninsula Town Center / Riverdale Plaza Shopping Center and the Newport News Transit Center (NNTC). Where the existing route currently travels onto Briarfield Road from Aberdeen Road, the service will remain on Aberdeen Road / Buxton Avenue, and will then travel on Blair Avenue and 16th Street, then finish the trip to NNTC. Service along Maple Avenue, Hampton Avenue and Garden Drive will be eliminated. The realigned Route 110 will provide service from along Marshall Avenue. The realigned Route 104 will operate on Briarfield Road between Roanoke Avenue and Big Bethel Road. Other portions of Briarfield Road will lose service from Route 105 but will be mostly covered by the realigned Routes 104 and 109. Improve weekday span to begin at 5:00 a.m.. Improve Sunday span to 6:15 a.m. to 10:00 p.m.. Improve weekday AM peak and PM peak headways to 30 minutes.	✓		
FY 2025	Improve weekday midday headway to 30 minutes.			
FY 2026	Improve Saturday and Sunday base headway to 30 minutes.			✓
FY 2027	Improve Sunday span to end at 12:13 a.m..		✓	
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 106



Route 106

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 106

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News / Warwick Boulevard / Denbigh Fort Eustis	Newport News Transit Center / Warwick Boulevard / Denbigh Fort Eustis
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:09 a.m. - 12:49 a.m.	5:00 a.m. - 12:49 a.m.
Saturday		5:09 a.m. - 12:49 a.m.	5:09 a.m. - 12:49 a.m.
Sunday		5:45 a.m. - 7:48 p.m.	5:45 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	20	30
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- There are no alignment changes planned for Route 106.
- Weekday service will be offered from 5:00 a.m. to 12:42 a.m.. Service will be offered every half hour from 6:00 a.m. to 6:00 p.m. with hourly service otherwise.
- On Saturdays the existing span will be maintained and service will be offered every half hour during the base period.
- The Sunday span of service will be expanded to end at 11:00 p.m. and service will be offered every half hour during the base period.



Justification

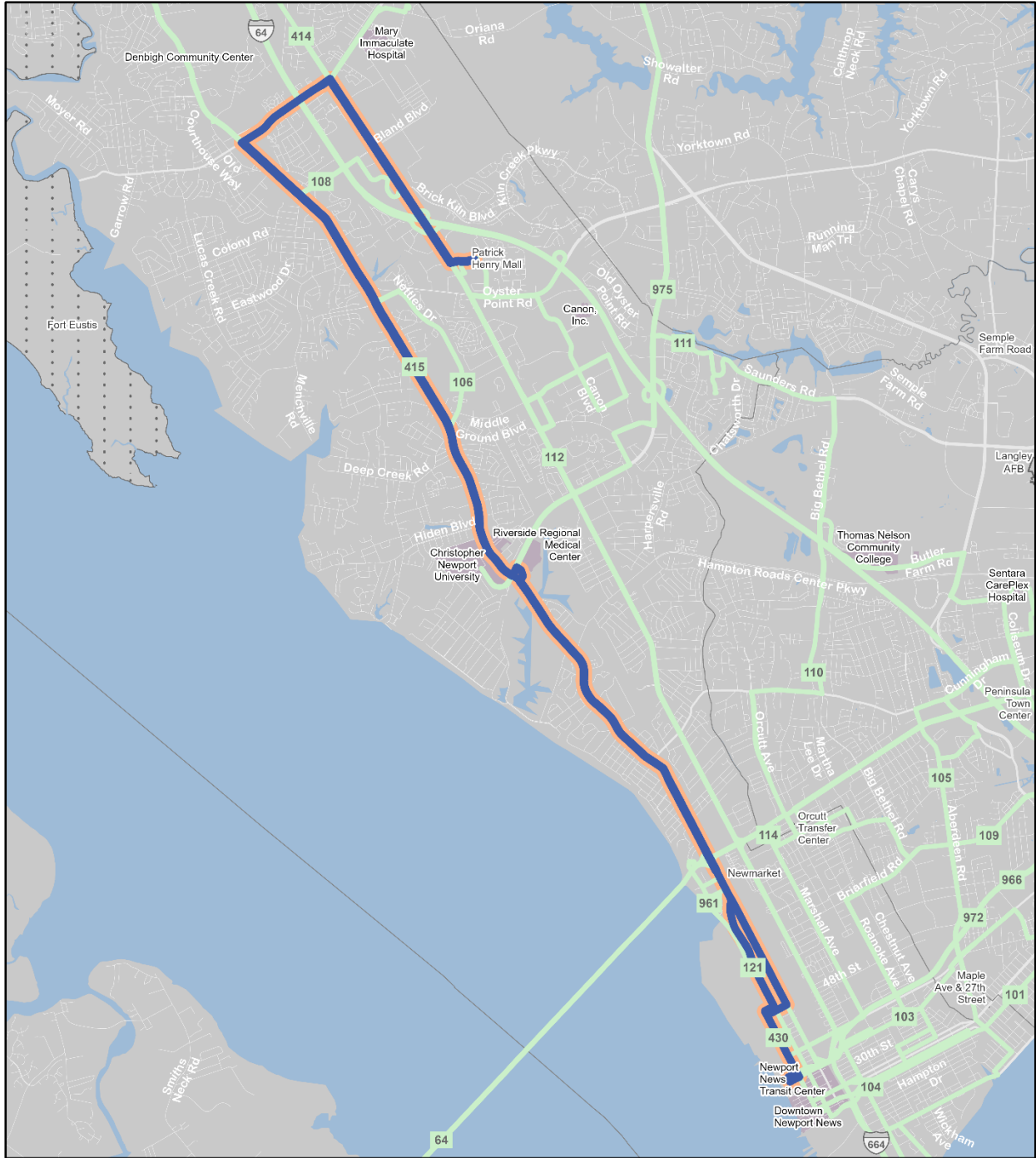
- Route 106 performs around or above average on the six Key Performance Indicators (KPI).
- Combined service between Route 106 and Route 107 will provide better than 30-minute service all day on Warwick Boulevard between Nettles Drive and Newport News Transit Center, which combined matches or exceeds the defined service standards for Local Priority routes.
- HRT was awarded a grant from the Commonwealth called the Interstate Operations and Enhancement Program to improve service on routes that operate on or run parallel to I-64: Routes 106, 107, and MAX Route 972. Improvements to Route 106 will be partially paid for by this grant.
- The City of Newport News is developing the 32-acre Sherwood Shopping Center site along Warwick Boulevard between Eastwood Drive and Tabbs Lane. This area will become a “civic hub” where residents and visitors can shop, work, live and play, anchored by a new library and other municipal services. Other potential uses include residential, retail, and flexible workspaces. Improving the headways on Route 106 will allow HRT customers to access the site’s amenities more easily and conveniently.

Route 106

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 5:00 a.m. to 12:49 a.m. and Sunday span to 5:45 a.m. to 11:00 p.m..	✓	✓	
FY 2024	Improve weekday early headway to 30 minutes (adding one trip) and improve weekday peak period headway to 30 minutes.			
FY 2025	Improve weekday midday headway to 30 minutes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Improve Saturday base headway to 30 minutes.			
FY 2029	Improve Sunday base headway to 30 minutes.			✓
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 107






Route 107

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 107

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News / Warwick Boulevard / Denbigh	Newport News Transit Center / Warwick Boulevard / Denbigh / Patrick Henry Mall
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	6:22 a.m. - 12:13 a.m.	5:00 a.m. - 12:07 a.m.
	Saturday	6:22 a.m. - 12:13 a.m.	6:00 a.m. - 12:13 a.m.
	Sunday	7:15 a.m. - 8:05 p.m.	6:00 a.m. - 9:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	30
	Midday	60	60
	PM Peak	60	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-

Service Changes

- There are no alignment changes for Route 107.
- Weekday service on Route 107 will start an hour earlier at 5:00 a.m.. Service during the weekday peak periods will be improved to operate every 30 minutes.
- Saturday service will remain as existing. The Sunday span of service will be expanded to 6:00 a.m. to 9:00 p.m.. Service on the weekend will remain hourly.



Justification

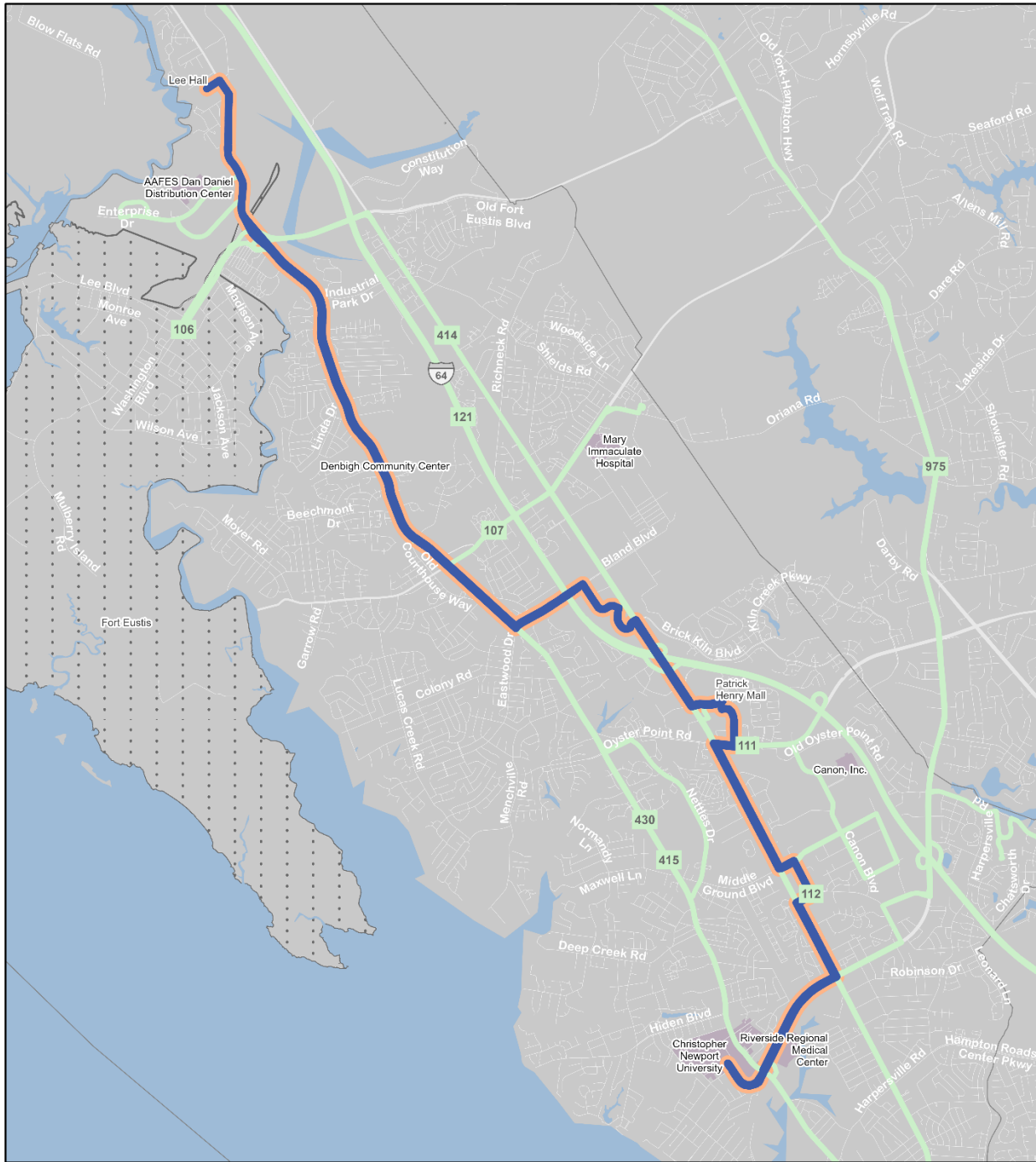
- Route 107 performs around or above average on the six Key Performance Indicators (KPI).
- Combined service between Route 106 and Route 107 will provide better than 30-minute service all day on Warwick Boulevard between Nettles Drive and Newport News Transit Center, which combined matches or exceeds the defined service standards for Local Priority routes.
- HRT was awarded a grant from the Commonwealth called the Interstate Operations and Enhancement Program to improve service on routes that operate on or run parallel to I-64: Routes 106, 107, and MAX Route 972. Improvements to Route 107 will be partially paid for by this grant.
- The City of Newport News is developing the 32-acre Sherwood Shopping Center site along Warwick Boulevard between Eastwood Drive and Tabbs Lane. This area will become a “civic hub” where residents and visitors can shop, work, live and play, anchored by a new library and other municipal services. Other potential uses include residential, retail, and flexible workspaces. Increasing the span and improving the headways on Route 107 will allow HRT customers to access the site’s amenities more easily and conveniently.

Route 107

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 5:00 a.m. to 12:07 a.m. and Sunday span to 6:00 a.m. to 9:00 p.m..	✓	✓	
FY 2024	Improve weekday peak headways to 30 minutes.			✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 108






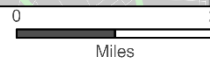
Route 108

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 108

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Boulevard Park / Patrick Henry Mall / Lee Hall	Boulevard Park / Patrick Henry Mall / Lee Hall
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:55 a.m. - 11:31 p.m.	5:00 a.m. - 11:31 p.m.
Saturday		5:55 a.m. - 11:31 p.m.	5:55 a.m. - 11:31 p.m.
Sunday		6:35 a.m. - 7:02 p.m.	6:00 a.m. - 9:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	60	60
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	60	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-

Service Changes

- On weekends, Route 108 service will operate the full length of the route, extended from Patrick Henry Mall to Fishing Point, Riverside Regional Medical Center, and Christopher Newport University (the alignment was recently updated in November 2021 to extend service from Patrick Henry Mall to Fishing Point, Christopher Newport University and Riverside Regional Medical Center).
- Weekday service will begin earlier at 5:00 a.m. and will operate hourly all day.
- Saturday span of service and headway will remain the same as existing. Sunday span of service will be increased to operate from 6:00 a.m. to 9:00 p.m.. All weekend service is hourly.



Justification

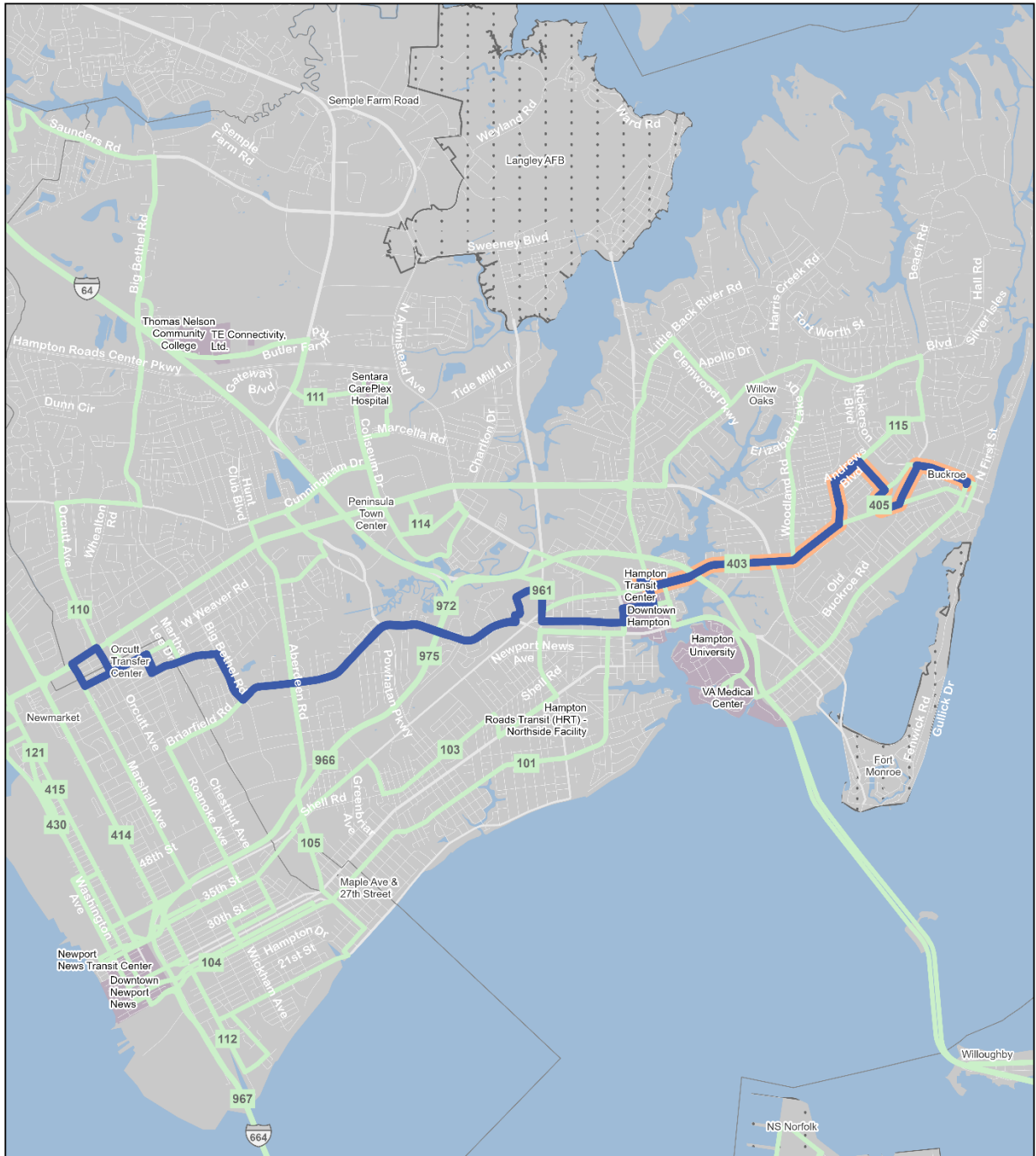
- The adjustments in start and end times during the weekday and weekend service day, and the headways, are reflective of the service standards developed for Coverage routes.
- The City of Newport News is developing the 32-acre Sherwood Shopping Center site along Warwick Boulevard between Eastwood Drive and Tabbs Lane. This area will become a “civic hub” where residents and visitors can shop, work, live and play, anchored by a new library and other municipal services. Other potential uses include residential, retail, and flexible workspaces. Increasing the span and extending Route 108 to other key regional destinations will allow HRT customers to access the site’s amenities more easily and conveniently.

Route 108

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to begin at 5:00 a.m.. Improve Sunday span to 6:00 a.m. to 9:00 p.m..	✓		
FY 2024	Seven days a week Route 108 will operate along the full length of the route, between Lee Hall and Christopher Newport.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 109






Route 109

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 109

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Pembroke) Downtown Hampton / Buckroe	Orcutt Avenue / Buckroe
Jurisdictions	Hampton	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		6:51 a.m. - 10:07 p.m.	5:00 a.m. - 11:00 p.m.
Saturday		7:47 a.m. - 9:10 p.m.	6:00 a.m. - 11:00 p.m.
Sunday		6:47 a.m. - 7:10 p.m.	6:00 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- Route 109 service will be extended from its current terminus at the Hampton Transit Center to Orcutt Transfer Center via the existing Route 110 alignment, thus providing direct service between Orcutt Transfer Center, Hampton Transit Center, and the Mallory/Buckroe area.
- The weekday span of service will be from 5:00 a.m. to 11:00 p.m.. On weekdays the a.m. and PM peak, midday, and in the evening until 8:00 headways will be offered every half hour. Hourly service will be offered all other times on the weekdays.
- Saturday and Sunday spans will be lengthened, with hourly service.



Justification

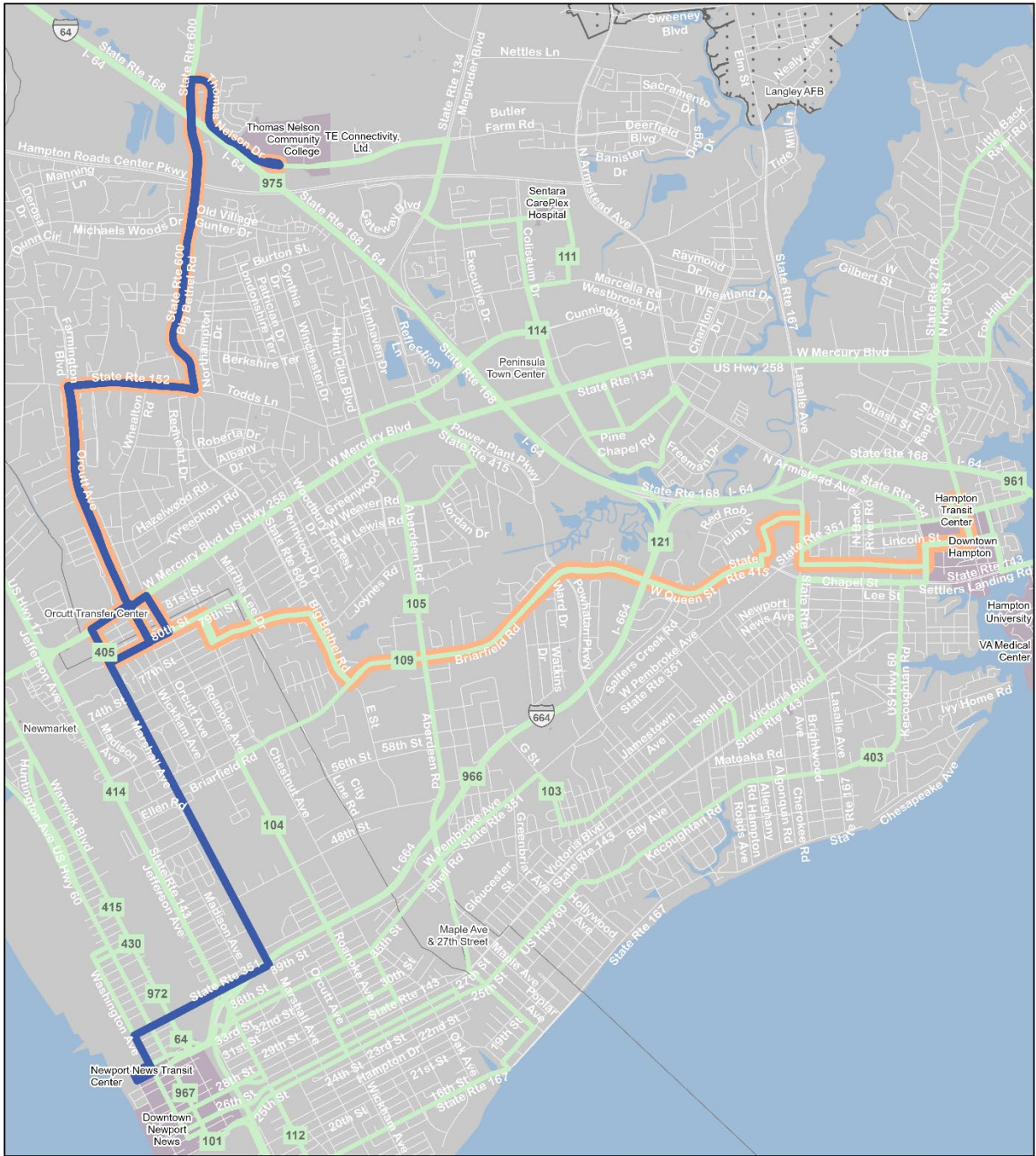
- Route 109 will function as a comprehensive crosstown service between Orcutt Transfer Center and Buckroe via the Hampton Transit Center. The service change will provide a one seat ride between the two termini, where currently a transfer is needed to complete this trip. Transfers to several other HRT north-south routes will be possible along the new alignment, enhancing transit connectivity throughout the Peninsula.
- Having Route 109 cover some of the existing Route 110's service in a more efficient manner allows for Route 110's realignment to be streamline for further efficiency gains.
- The service levels for Route 109 will meet the service standards defined for Local Priority routes once further headway improvements can be made which do not fit into the ten years of the plan (see the table on the next page).

Route 109

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 109 service will be extended from its current terminus at the Hampton Transit Center to Orcutt via the existing Route 110 alignment, thus providing direct service between Orcutt, Hampton Transit Center, and the Mallory/Buckroe area. Improve weekday span to 5:00 a.m. to 11:00 p.m..	✓		
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	Improve Saturday and Sunday span to 6:00 a.m. to 11:00 p.m..		✓	
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	Improve weekday peak headways to 30 minutes.			
FY 2032	Improve weekday midday headway to 30 minutes.			
Out Years	Improve Saturday base and Sunday base headways to 30 minutes. Improve weekday evening headway to 30 minutes until 8:00 p.m..			✓




Route 110



Route 110

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 110

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Hampton / Thomas Nelson Community College	Downtown Newport News / Thomas Nelson Community College
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		6:00 a.m. - 10:50 p.m.	5:00 a.m. - 11:00 p.m.
Saturday		7:00 a.m. - 10:50 p.m.	7:00 a.m. - 11:00 p.m.
Sunday		8:00 a.m. - 7:48 p.m.	7:00 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	30 until 8:00 p.m., 60 after
	Late Night	-	-
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	30
	Non-Base	-	60
	Early / Late	-	60

Service Changes

- Route 110 will provide a new direct connection between Thomas Nelson Community College, Orcutt Transfer Center, and Newport News Transit Center. It will operate on Marshall Avenue, replacing existing Marshall Avenue service provided by Routes 104 and 105.
- The existing Route 110 alignment from Orcutt Transfer Center to Hampton Transit Center will be covered by the realigned Route 109.
- Weekday service will be offered between 5:00 a.m. and 11:00 p.m.. Weekday service will be offered every half hour during the a.m. and PM peak, midday, and evening (through 8:00 p.m.) periods. Hourly service will be offered during all other times on weekdays.
- Weekend service will be offered hourly between 7:00 a.m. and 11:00 p.m.. On weekends during the base period, 30-minute headways will be offered with hourly service otherwise.



Justification

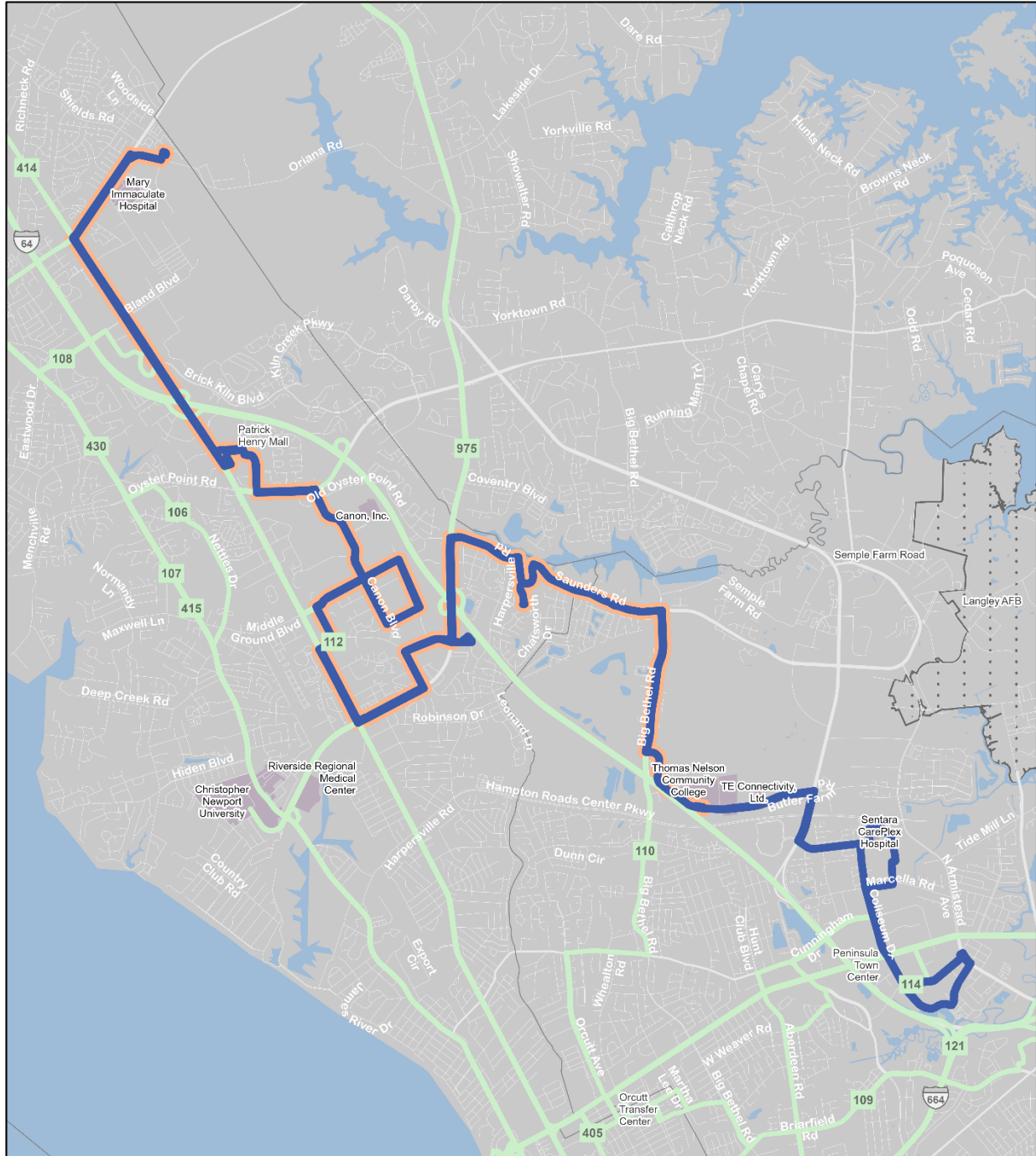
- Route 110 performs around or below average on the six Key Performance Indicators (KPI). The alignment changes to Route 110 were developed in concert with service changes to Route 104 and Route 105 in an effort to improve route directness and on-time performance, and to create routes that are simpler to understand.
- The extension of Route 109 will cover the portion of the existing Route 110 between Orcutt Transfer Center and the Hampton Transit Center. This allows for Route 110 to provide a direct connection between Downtown Newport News and Thomas Nelson Community College.
- The increases to the levels of service are to match the service standards defined for Local Priority routes.

Route 110

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 110 will provide a new direct connection between Thomas Nelson Community College, Orcutt Transfer Center, and Newport News Transit Center. It will operate on Marshall Avenue, replacing existing Marshall Avenue service provided by Routes 104 and 105. The existing Route 110 alignment from Orcutt Transfer Center to Hampton Transit Center will be covered by the realigned Route 109. Improve weekday span to begin at 5:00 a.m..	✓		
FY 2025	Improve weekday and Saturday span to 11:00 p.m.. Improve Sunday span to 7:00 a.m. to 11:00 p.m.. Improve weekday AM peak and weekday PM peak headways to 30 minutes.		✓	
FY 2026	Improve midday headway to 30 minutes.			
FY 2027	No changes.			
FY 2028	Improve Saturday and Sunday base headways to 30 minutes. Improve weekday evening headway to 30 minutes until 8:00 p.m..			✓
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 111






Route 111

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 111

Service Classification	
Coverage	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Thomas Nelson Community College / Patrick Henry Lane / Denbigh	Peninsula Town Center / Thomas Nelson Community College / Patrick Henry Mall / Denbigh
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		6:54 a.m. - 10:48 p.m.	5:00 a.m. - 10:48 p.m.
Saturday		7:00 a.m. - 10:39 p.m.	7:00 a.m. - 10:39 p.m.
Sunday		8:01 a.m. - 7:31 p.m.	7:00 a.m. - 7:31 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	60
	Non-Base	-	60
	Early / Late	-	-

Service Changes

- Recently in November 2021, the Route 111 alignment was extended up Jefferson Avenue to Denbigh Boulevard to terminate on Woodside Lane.
- Route 111 will serve the Newport Square Shopping Center on weekdays.
- The southern terminus of Route 111 will be extended beyond Thomas Nelson to connect to Peninsula Town Center, covering a portion of the eliminated Route 118 and providing service to Sentara CarePlex Hospital to cover a portion of the eliminated Route 102.
- On weekdays Route 111 will begin service two hours earlier, starting at 5:00 a.m.. Service will be provided at hourly intervals, which matches current headways.
- The Sunday span of service will be extended to begin at 7:00 a.m.. All weekend service is provided hourly. Sunday service will not operate in Hampton (it will operate the short turn between Denbigh/Woodside Lane and Berkley Village).



Justification

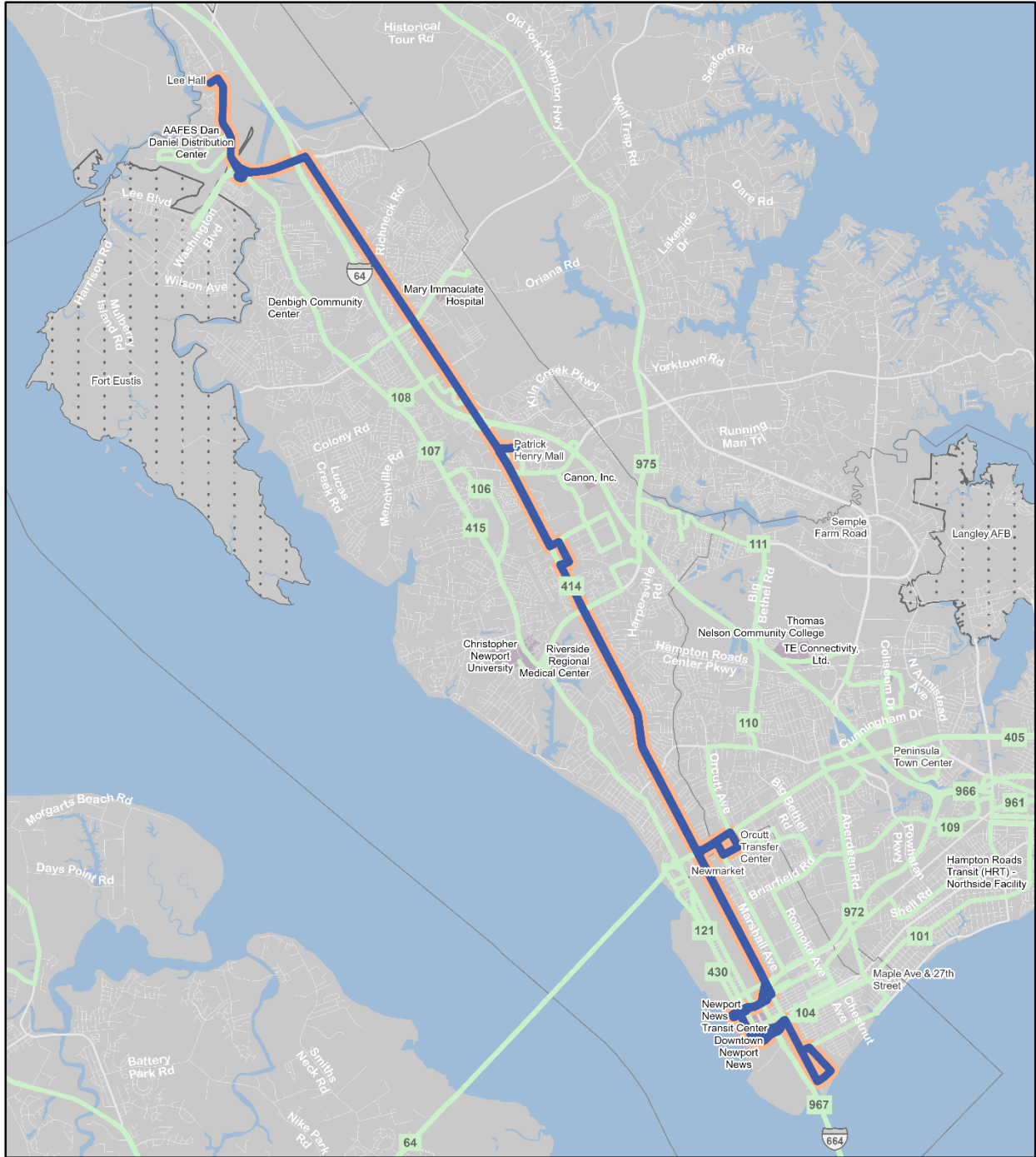
- The realignment of Route 111 will help to cover portions of the eliminated Route 102 and Route 118.
- The extended route will provide a one seat ride between Denbigh, Patrick Henry, and Downtown Hampton, providing transfer connections to several high-frequency HRT services.
- The levels of service for the Route 111 meet the service standards defined for Coverage routes.

Route 111

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 111 will serve the Newport Square Shopping Center on weekdays.			
FY 2024	The southern terminus of Route 111 will be extended beyond Thomas Nelson to connect to Peninsula Town Center, covering a portion of the eliminated Route 118 and providing service to Sentara CarePlex Hospital to cover a portion of the eliminated Route 102. Improve weekday span to begin at 5:00 a.m. and Sunday span to begin at 7:00 a.m.. Route 111 will continue to not serve Hampton on Sundays.	✓		
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	On Sunday, full alignment operates (no longer operating only in Newport News).		✓	✓




Route 112






Route 112

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 112

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Ivy Avenue & 6th Street / Downtown Newport News / Patrick Henry Mall / Lee Hall	Ivy Avenue & 6th Street / Downtown Newport News / Patrick Henry Mall / Lee Hall
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	4:55 a.m. - 12:57 a.m.	4:55 a.m. - 1:00 a.m.
	Saturday	4:55 a.m. - 12:57 a.m.	4:55 a.m. - 12:57 a.m.
	Sunday	6:28 a.m. - 8:33 p.m.	5:15 a.m. - 12:35 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	30	15 / 30
	Midday	30	15 / 30
	PM Peak	30	15 / 30
	Evening	30	30 / 60
	Late Night	30	60
Saturday	Base	30	15 / 30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	15 / 30
	Non-Base	60	30 / 60
	Early / Late	-	60

Note	
This route's planned service operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- No further alignment changes are planned (in November 2021 the Route 112 alignment was extended to Lee Hall).
- Route 112 will operate high-frequency service between 6th and Ivy, NNTC, and Patrick Henry Mall.
- On weekdays, service will operate every 15 minutes between 6th and Ivy and Patrick Henry Mall from 6:00 a.m. to 6:00 p.m. and every 30 minutes to Lee Hall. Before 6:00 a.m. and between 6:00 p.m. and 11:00 p.m. service will operate every 30 minutes between 6th and Ivy and Patrick Henry Mall and hourly on the extension to Lee Hall. After 11:00 p.m., service will operate hourly along the whole length of the route.
- The Sunday span of service will be increased. During the weekend base period service will operate every 15 minutes between 6th and Ivy and Patrick Henry Mall and every 30 minutes to Lee Hall. During the weekend non-base period, service will operate every 30 minutes between 6th and Ivy and Patrick Henry Mall and hourly to Lee Hall. During the weekend early/late period service will operate hourly along the whole length of the route.



Justification

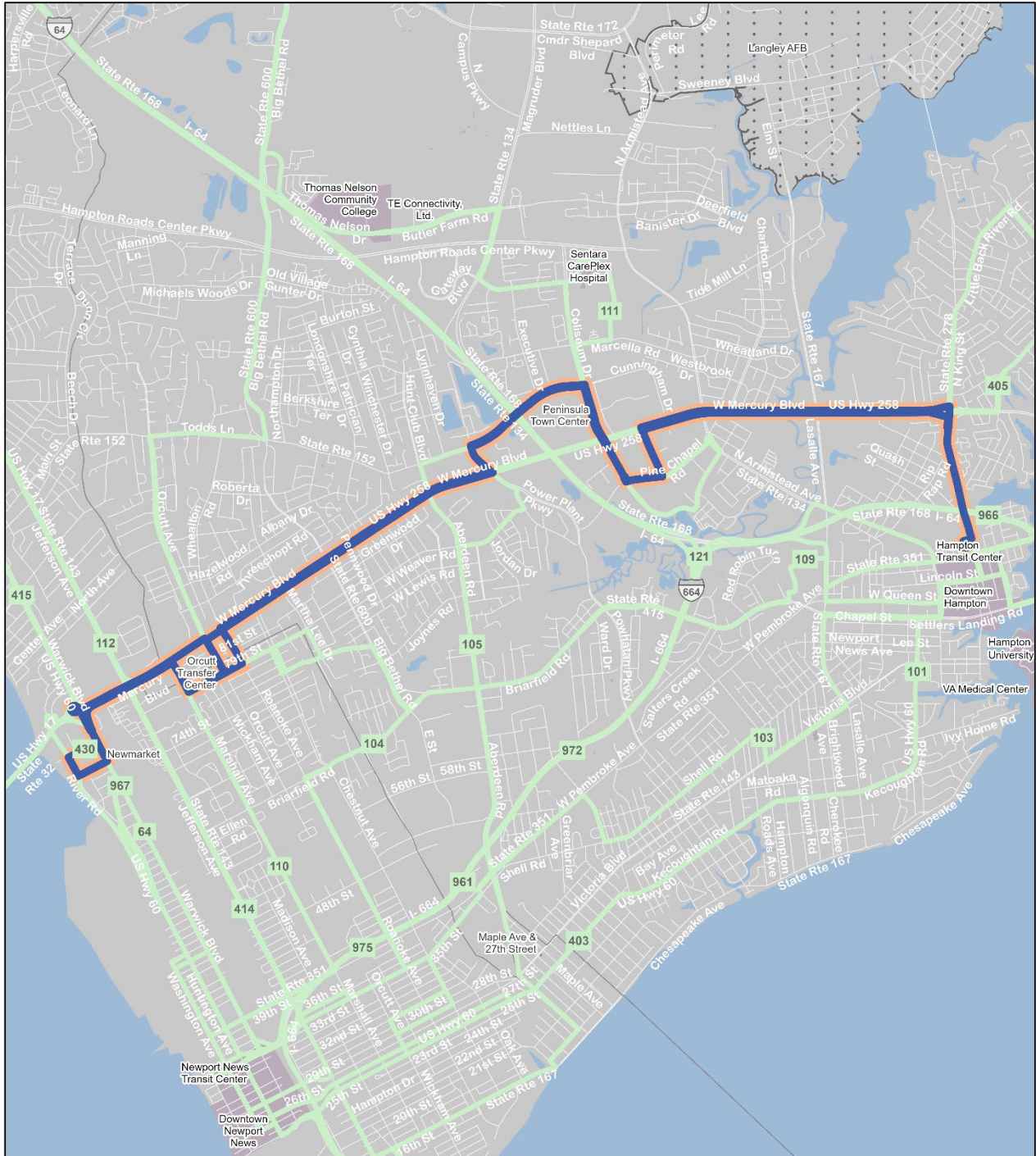
- Route 112 is performing well based on the six Key Performance Indicators (KPI). Route 112 is one of the alignments identified in the Peninsula BRT corridor study plan. Service will be increased, in line with the travel demand along the route and the BRT study plan.
- These service changes address an all-day service gap in Newport News.

Route 112

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 4:55 a.m. to 1:00 a.m. and Sunday span to 5:15 a.m. to 12:35 a.m.. Implement 30-minute headways on the full route on weekdays from 6:00 a.m. to 6:00 p.m. and during Saturday and Sunday base periods. On the short turn between 6th & Ivy and Patrick Henry, implement 15-minute headways on weekdays from 6:00 a.m. to 6:00 p.m. and 30 minute headways during the early and evening periods. During Saturday and Sunday base periods, implement 15-minute headways on the short turn. During Saturday and Sunday non-base periods, implement 30-minute headways on the short turn.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 114



Route 114

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 114

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newmarket / Downtown Hampton	Newmarket / Downtown Hampton
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		6:20 a.m. - 11:38 p.m.	5:00 a.m. - 1:00 a.m.
Saturday		6:45 a.m. - 11:32 p.m.	6:00 a.m. - 12:00 a.m.
Sunday		6:45 a.m. - 7:30 p.m.	6:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	60	30
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	15
	Non-Base	60	30
	Early / Late	-	60

Service Changes

- No change to existing alignment.
- On weekdays, expand the span of service to match the service design guidelines for Regional Backbone, starting at 5:00 a.m. and ending at 1:00 a.m..
- From 6:00 a.m. to 6:00 p.m., the service will operate every 15-minutes. Before 6:00 a.m. and between 6:00 p.m. and 11:00 p.m., service will operate at half hour intervals. After 11:00 p.m., service will be offered hourly.
- On weekends, the span of service will be expanded to match the service design standards for Regional Backbone routes, starting at 6:00 a.m. and ending at 12:00 a.m., with 15-minute service being provided through much of the day.



Justification

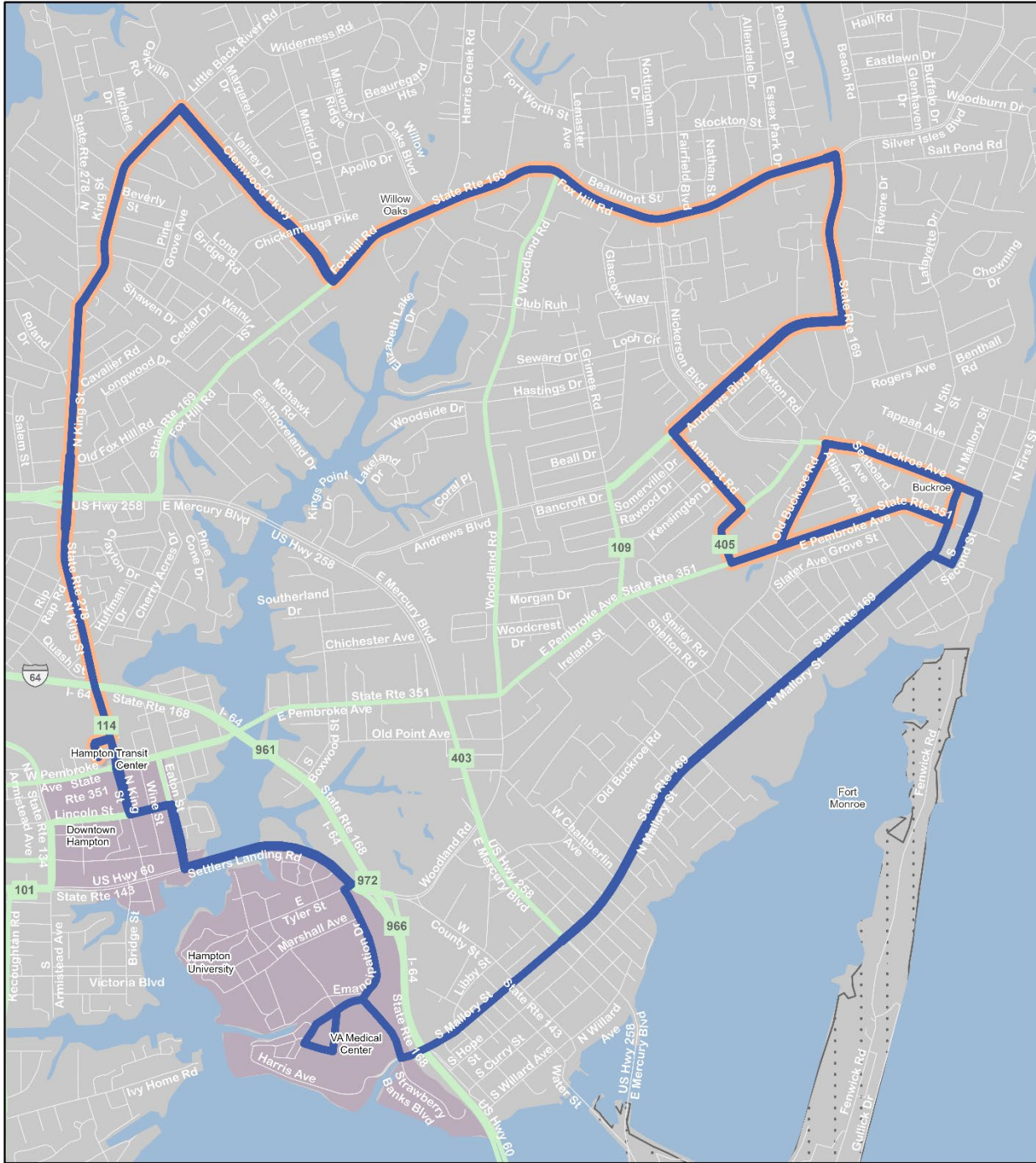
- Route 114 is performing well on the six Key Performance Indicators (KPI). Route 114 is one of the alignments identified in the Peninsula BRT corridor study plan—the planned and existing alignment match that from the corridor plan. Route 114 service will improve in line with the travel demand along the route and the BRT study plan.
- These service changes address an all-day service gap between Newport News and Hampton by increasing midday service in this area.
- The levels of service for Route 114 meet the service standards defined for Regional Backbone routes.

Route 114

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 5:00 a.m. to 1:00 a.m. and weekend span to 6:00 a.m. to 12:00 a.m.. On weekdays, implement 15-minute headways from 6:00 a.m. to 6:00 p.m. and 30-minute headways in the early and evening periods. On weekends, implement 15-minute headways in the base period and 30-minute headways in the non-base period.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 115



Route 115

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 115

Service Classification	
Local Priority	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Buckroe / Willow Oaks / Downtown Hampton	Downtown Hampton / Buckroe / Mallory / VA Medical Center / Hampton University / Downtown Hampton
Jurisdictions	Hampton	Hampton

Level of Service			
Span			
		Existing	Planned
	Weekday	5:45 a.m. - 12:07 a.m.	5:00 a.m. - 12:07 a.m.
	Saturday	6:11 a.m. - 10:08 p.m.	6:11 a.m. - 11:00 p.m.
	Sunday	8:11 a.m. - 7:37 p.m.	7:00 a.m. - 11:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	30
	Midday	60	30
	PM Peak	60	30
	Evening	60	30
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	30
	Non-Base	-	60
	Early / Late	-	60

Service Changes

- Route 115 will be realigned to be a combination of three routes: Route 115, Route 117, and Route 120. This will allow for improved frequency and improved connections throughout Hampton. Service will begin at Hampton Transit Center and operate via the existing Route 115 alignment to Buckroe Beach. After serving Buckroe Beach, Route 115 will operate on Mallory Street following the existing Route 120 alignment, then continue to the VA via the existing Route 117 alignment. Route 115 will then serve Hampton University via the existing Route 117 alignment and terminate at Hampton Transit Center. This same pattern will operate in the opposite direction.
- Weekday service will operate from 5:00 a.m. to 12:07 a.m.. From 6:00 a.m. to 11:00 p.m. service will be offered every half hour, with hourly service before and after.
- Saturday service will operate from 6:11 a.m. to 11:00 p.m. and Sunday service will operate from 7:00 a.m. to 11:00 p.m.. During the weekend base period service will operate every half hour, with hourly service during the other service periods.



Justification

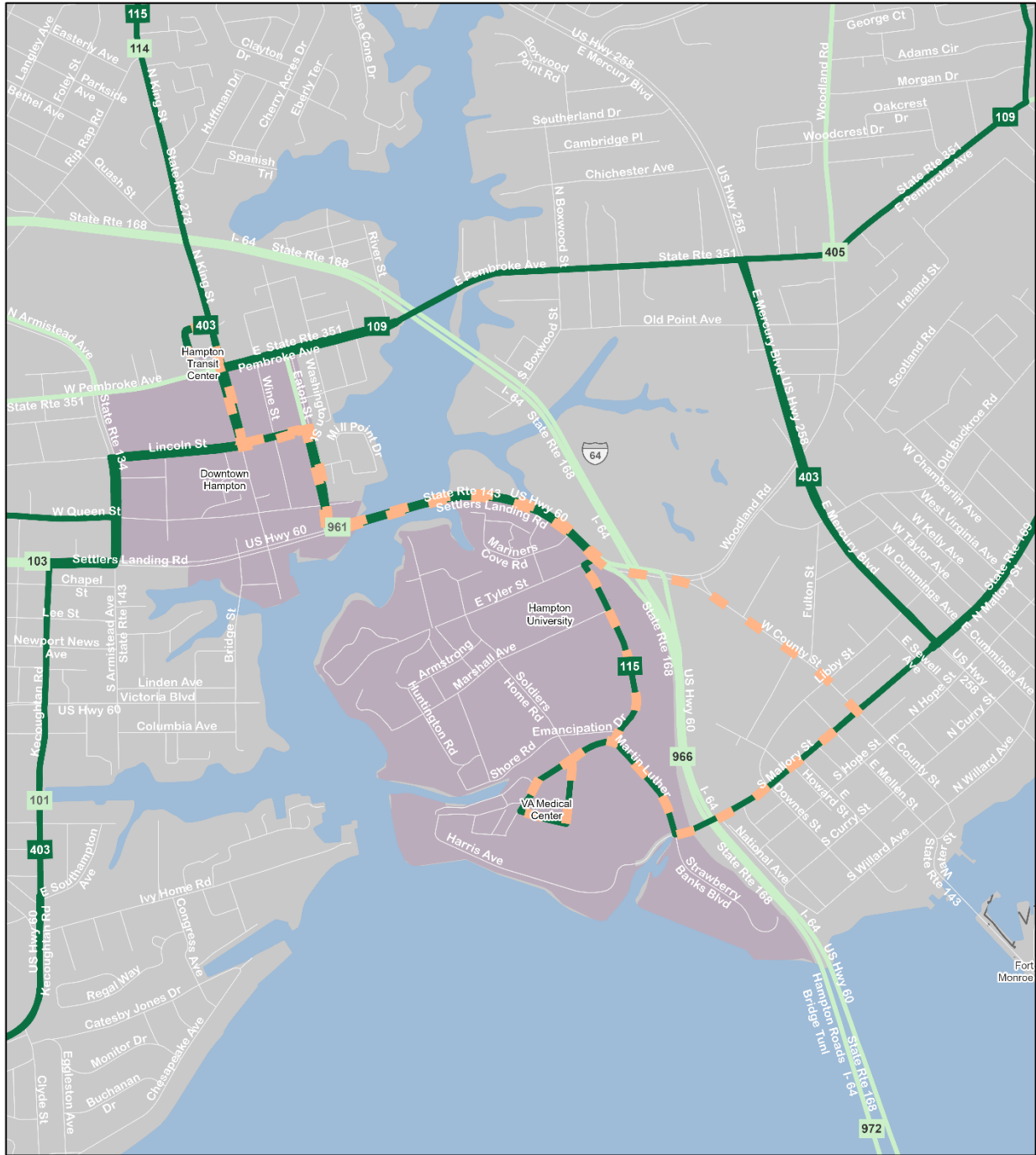
- The service change for Route 115 calls for a service consolidation and an increase of the level of service for two successful routes, Route 115 and Route 117, both of which fall within the top third of HRT routes in terms of passengers per hour. Joining these two services will provide a one-seat ride between the Mallory/Buckroe area and the VA Medical Center. Joining these two services with Route 120 completes a loop of key destinations within Hampton, all accessible to each other with a one-seat ride and with improved frequencies over what is offered today.
- This service change addresses an all-day service gap in the area with increased midday service along the full route from 60-minute to 30-minute headways.
- The level of service increases on Route 115 help the service match the standards for Local Priority routes.

Route 115

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 115 is realigned to cover eliminated Route 117 and 120 and provide improved frequency and improved connections throughout Hampton. Service will begin at Hampton Transit Center and operate via the existing Route 115 alignment to Buckroe Beach. After serving Buckroe Beach, Route 115 will operate on Mallory Street following the existing Route 120 alignment, then continue to the VA via the existing Route 117 alignment. Route 115 will then serve Hampton University via the existing Route 117 alignment and terminate at Hampton Transit Center. This same pattern will operate in the opposite direction. Weekday span improved to begin at 5:00 a.m. and Saturday span improved to 6:11 a.m. to 11:00 p.m.. Weekday peak headways improved to 45 minutes.	✓		
FY 2024	Improve weekday peak, weekday midday, weekday evening, Saturday base and Sunday base headways to 30 minutes.			✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	Improve Sunday span to 7:00 a.m. to 11:00 p.m..		✓	
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 117



Route 117

Focus Route

- Eliminated Route
- Routes providing replacement coverage

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 117

Service Classification	
-	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Phoebus) Hampton University / VA Hospital	-
Jurisdictions	Hampton	-

Level of Service			
Span			
		Existing	Planned
Weekday		6:15 a.m. - 7:38 p.m.	-
Saturday		8:15 a.m. - 7:38 p.m.	-
Sunday		8:15 a.m. - 6:38 p.m.	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	60	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	60	-
	Early / Late	-	-
Sunday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 117 service will be eliminated, replaced by the realigned Route 115. Service on County Street will be eliminated. The level of service on the realigned Route 115 will provide higher levels of service than the Route 117 currently provides.



Justification

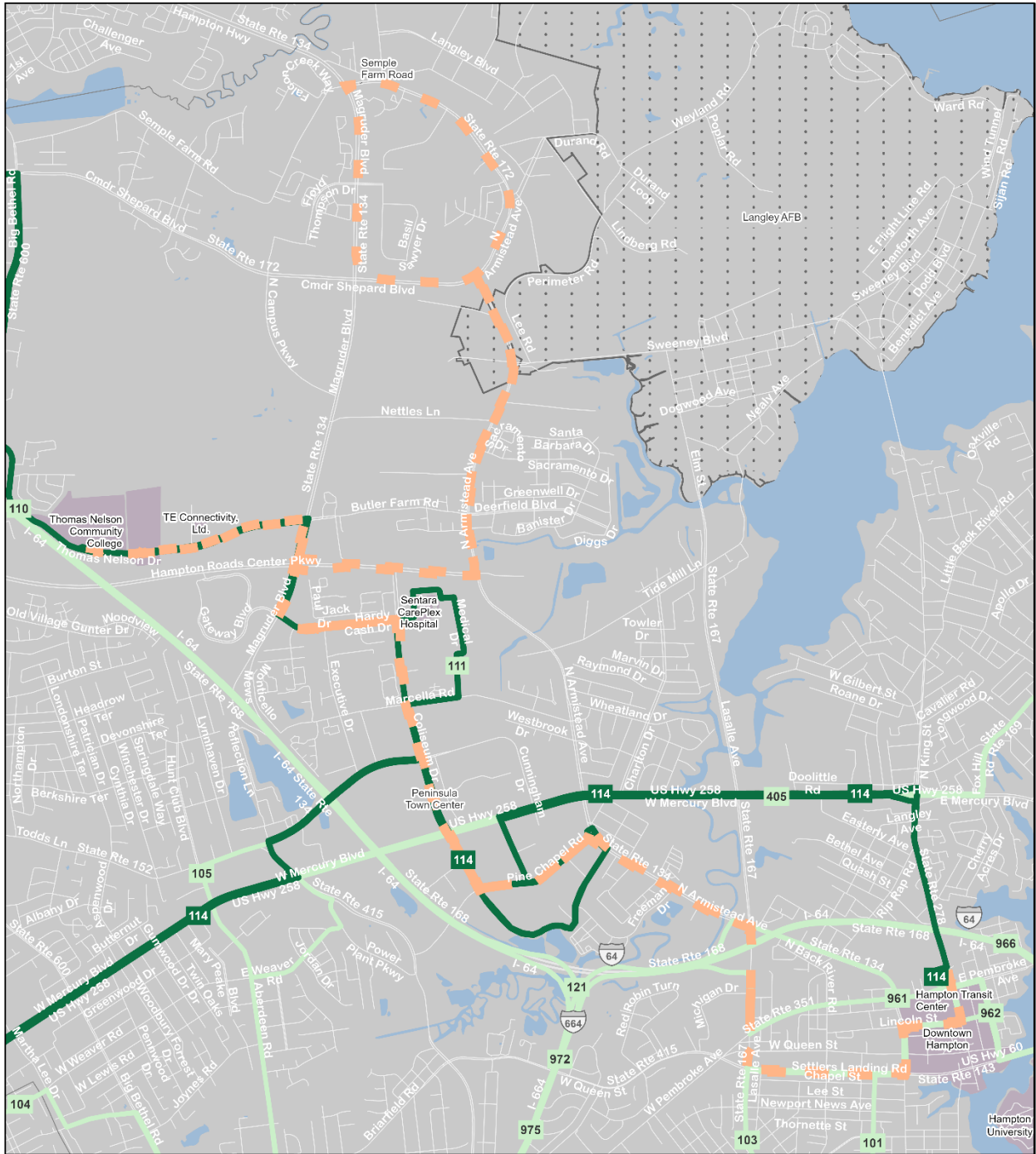
- Overall, Route 117 is performing well based on the six Key Performance Indicators (KPI). The service provided by the new Route 115 will provide increased levels of service on the same alignment of the existing Route 117.
- Consolidating resources on the realigned Route 115 allow for more places in Hampton to be connected together with more frequent service. This will improve the simplicity of HRT's service in Hampton, in line with the service design standards, while providing greater access for Hampton University students to additional regional destinations. Students and residents around the University will receive a direct connection to Buckroe Beach, as well connections to points west.

Route 117

Improvements by Year


Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 117 service will be eliminated, with service being covered by the realigned Route 115. Service on County Street will be eliminated. The level of service on the realigned Route 115 will provide higher levels of service than the Route 117 currently provides.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			


Route 118



Route 118

Focus Route

 Eliminated Route


 Routes providing replacement coverage


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 118

Service Classification		
-		

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Magruder) Langley / Semple Farm Road	-
Jurisdictions	Hampton	-

Level of Service			
Span			
		Existing	Planned
	Weekday	6:15 a.m. - 10:13 p.m.	-
	Saturday	6:15 a.m. - 10:13 p.m.	-
	Sunday	8:15 a.m. - 7:13 p.m.	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	60	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	60	-
	Early / Late	-	-
Sunday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 118 will be eliminated. Route 114 will provide direct and more frequent service between Hampton Transit Center and Peninsula Town Center than Route 118 currently offers. The realigned Route 111 will connect Peninsula Town Center to Thomas Nelson Community College and points north and will cover eliminated service on Hardy Cash Drive. Service on Route 118 north of Hampton Roads Center Parkway will be eliminated. Route 111 southbound service will operate on Coliseum Drive between Hardy Cash Drive and Marcella Road; bi-directional service on Route 111 will be available nearby at Sentara CarePlex and on Marcella Road. Service on Lasalle Avenue will be covered by the realigned Route 109.



Justification

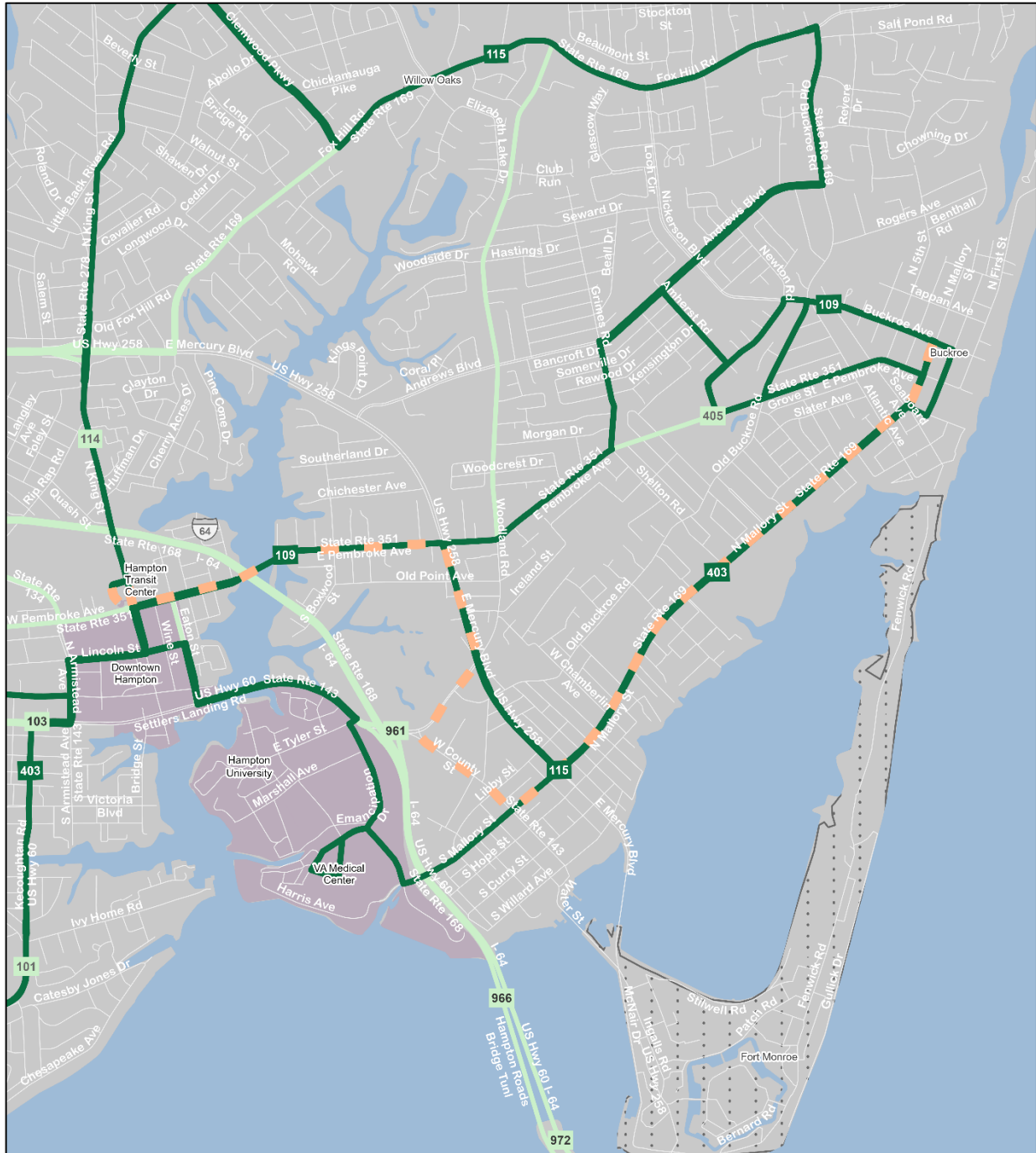
- Route 118 performs around average on the six Key Performance Indicators (KPI) but overall efficiency can be gained by covering parts of this existing route with other realigned routes.
- The City of Hampton is exploring demand response transit service to cover a portion of the eliminated Route 118 service area.

Route 118

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 118 will be eliminated. Route 114 will provide direct and more frequent service between Hampton Transit Center and Peninsula Town Center than Route 118 currently offers. The realigned Route 111 will connect Peninsula Town Center to Thomas Nelson Community College and points north and will cover eliminated service on Hardy Cash Drive. Service north of Hampton Roads Center Parkway will be eliminated. Route 111 southbound service will operate on Coliseum Drive between Hardy Cash Drive and Marcella Road; bidirectional service on Route 111 will be available nearby at Sentara CarePlex and on Marcella Road. Service on Lasalle Avenue will be covered by the realigned Route 109.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 120



Route 120

Focus Route

-  Eliminated Route
-  Routes providing replacement coverage

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 120

Service Classification	
-	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Mallory) Downtown Hampton / Mallory / Buckroe	-
Jurisdictions	Hampton	-

Level of Service			
Span			
		Existing	Planned
Weekday		7:10 a.m. - 8:48 p.m.	-
Saturday		8:10 a.m. - 8:48 p.m.	-
Sunday		8:10 a.m. - 6:48 p.m.	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	60	-
	Midday	60	-
	PM Peak	60	-
	Evening	60	-
	Late Night	-	-
Saturday	Base	60	-
	Non-Base	60	-
	Early / Late	-	-
Sunday	Base	60	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Route 120 service will be eliminated, with service being covered by the realigned Route 115. Service on County Street and Woodland Road will be eliminated; Route 120 service on E Mercury Boulevard will be eliminated and Route 403 will still operate there, providing limited service. The level of service on the realigned Route 115 will provide higher levels of service than the Route 120 currently provides.



Justification

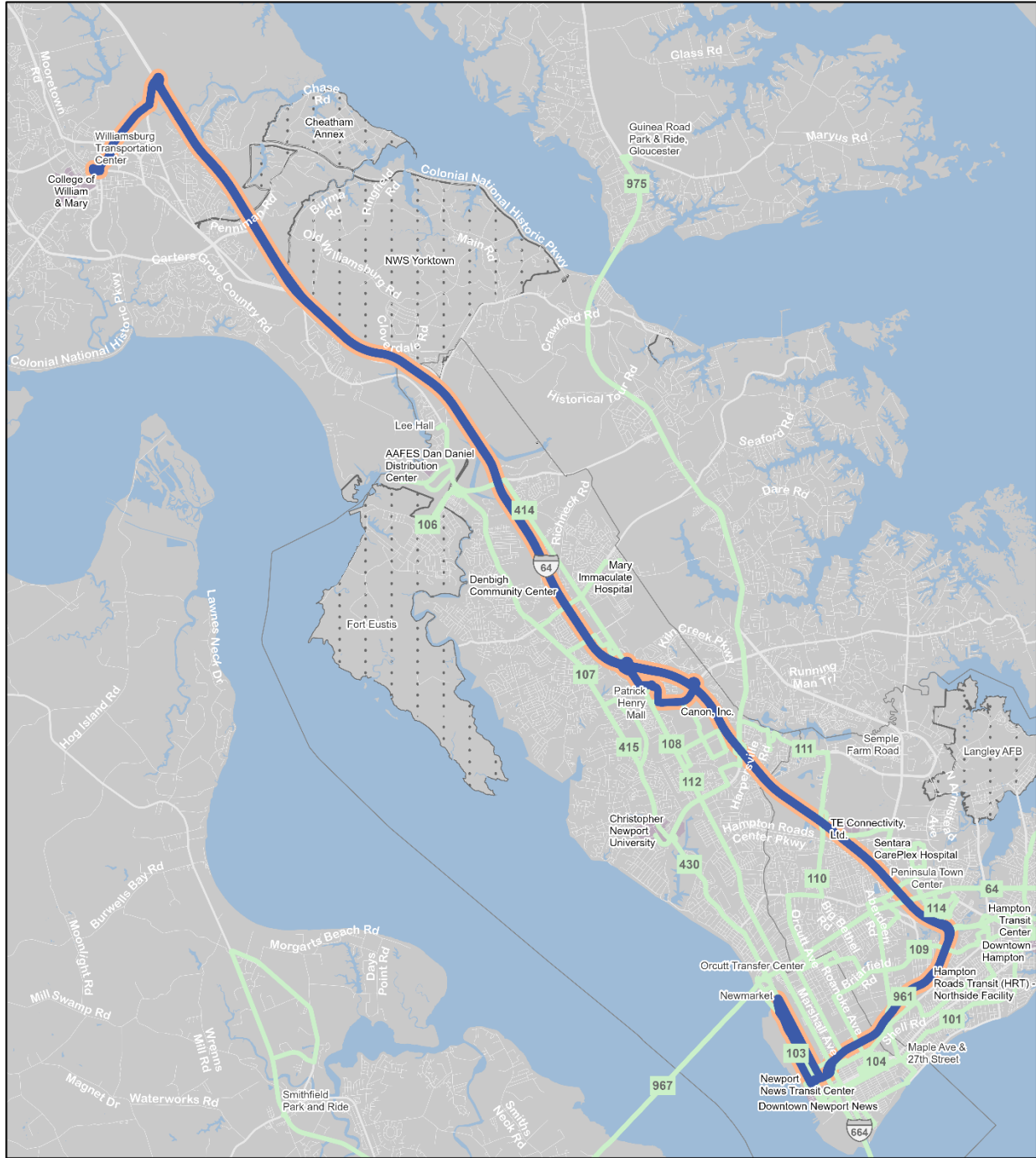
- Consolidating resources on the realigned Route 115 allow for more places in Hampton to be connected together with more frequent service. There will now be direct connections between Buckroe, Hampton University, the VA, and other points of interest in Hampton.

Route 120

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 120 service will be eliminated, with service being covered by the realigned Route 115. Service on County Street and Woodland Road will be eliminated; Route 120 service on E Mercury Boulevard will be eliminated and Route 403 will still operate there, providing limited service. The level of service on the realigned Route 115 will provide higher levels of service than the Route 120 currently provides.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 121






Route 121

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 121

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Williamsburg Transportation Center	Newport News Transit Center / Williamsburg Transportation Center
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:30 a.m. - 7:00 a.m.; 3:40 p.m. - 5:50 p.m.	5:30 a.m. - 7:00 a.m.; 3:40 p.m. - 5:50 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	1 Trip	1 Trip
	Midday	-	-
	PM Peak	2 Trips	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No schedule or alignment changes.



Justification

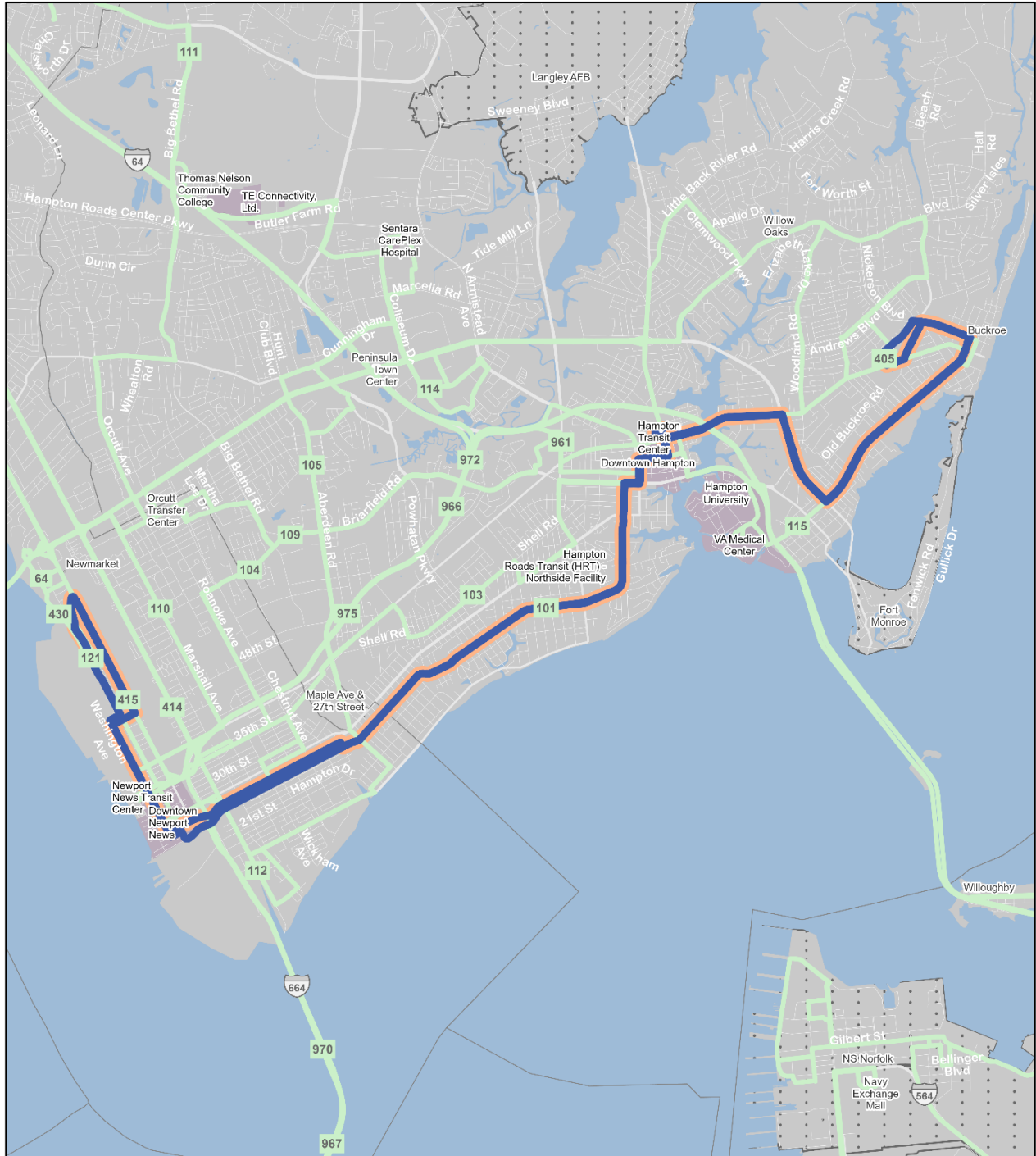
- MAX Route 121 service will remain unchanged from what is currently offered.

Route 121

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 403






Route 403

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 403

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Buckroe Shopping Center	Buckroe Shopping Center
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:28 a.m. - 6:18 a.m.	5:28 a.m. - 6:18 a.m.; 3:40 p.m. - 4:15PM
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	-	-
	Midday	-	-
	PM Peak	-	1 Trip
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One trip will be added to Route 403 in the PM peak period at 3:40 p.m.. The 3:40 p.m. trip is being transferred from Route 101.



Justification

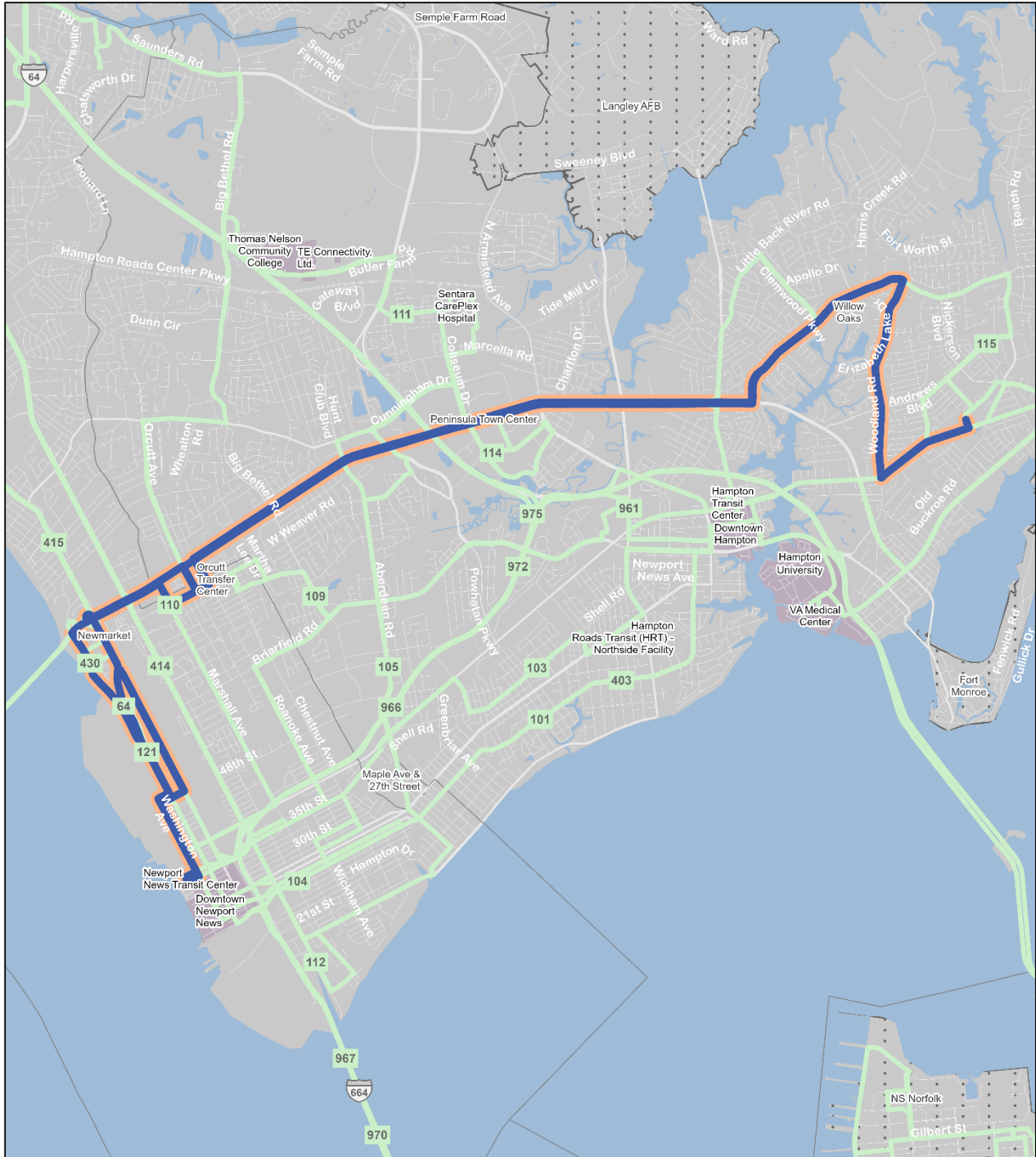
- An additional trip will be added to Route 403 which will replace service removed from Northgate currently being provided by Route 101.

Route 403

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 405






Route 405

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 405

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Buckroe	Newport News Transit Center / Buckroe
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service		
Span		
	Existing	Planned
Weekday	5:50 a.m. - 6:31 a.m.; 2:40 p.m. - 3:38 p.m.	4:50 a.m. - 5:50 a.m.; 2:40 p.m. - 4:38 p.m.
Saturday	-	-
Sunday	-	-

Headway			
	Existing	Planned	
Weekday	Early	1 Trip	2 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Two trips will be added to Route 405, one in the early period at 4:50 a.m., and one in the PM peak period at 3:40 p.m..



Justification

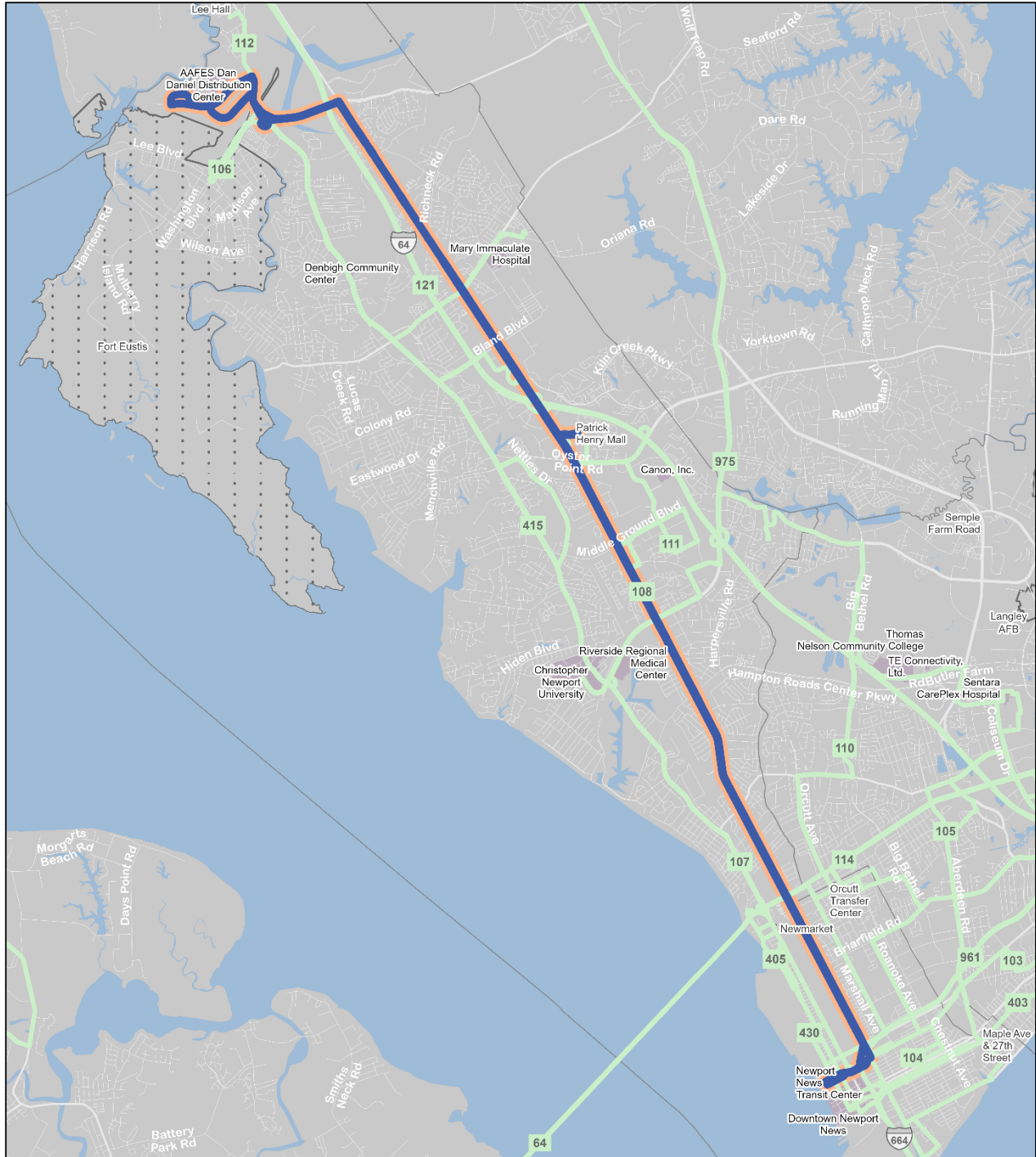
- Additional trips will be added to Route 405 to meet shift-specific demand.

Route 405

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One trip is added in the early period. One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 414






Route 414

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 414

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Jefferson / Oakland	Newport News Transit Center / Jefferson / Oakland
Jurisdictions	Newport News	Newport News

Level of Service		
Span		
	Existing	Planned
Weekday	5:20 a.m. - 7:49 a.m.; 3:40 p.m. - 6:12 p.m.	5:20 a.m. - 7:49 a.m.; 3:40 p.m. - 6:12 p.m.
Saturday	-	-
Sunday	-	-

Headway			
	Existing	Planned	
Weekday	Early	2 Trips	2 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	3 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

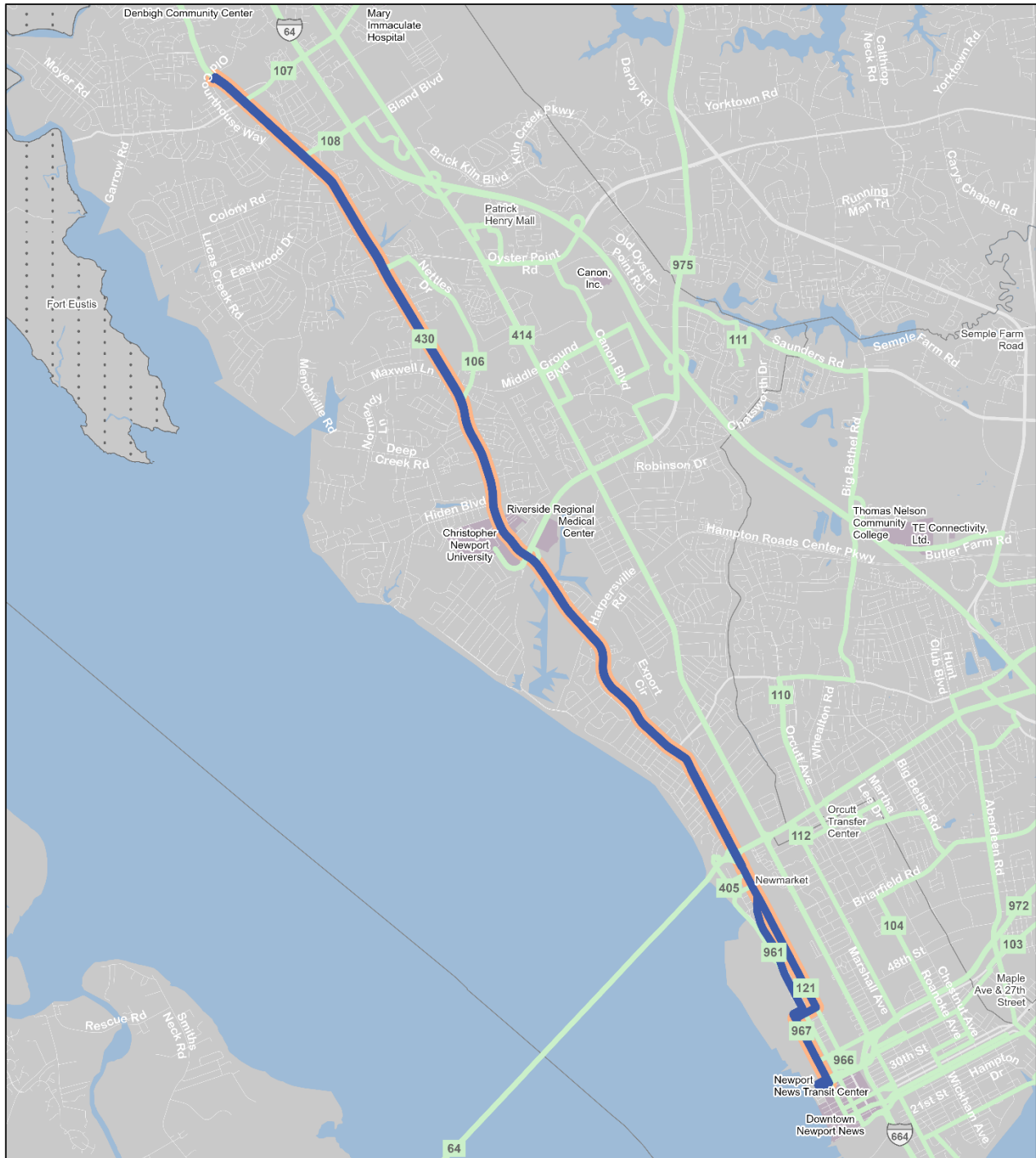
- Route 414 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

Route 414

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 415



Route 415

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 415

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Denbigh	Newport News Transit Center / Denbigh
Jurisdictions	Newport News	Newport News

Level of Service		
Span		
	Existing	Planned
Weekday	3:45 p.m. - 4:27 p.m.	6:00 a.m. - 6:42 a.m.; 3:45 p.m. - 4:27 p.m.
Saturday	-	-
Sunday	-	-
Headway		
	Existing	Planned
Weekday	Early	-
	AM Peak	-
	Midday	-
	PM Peak	1 Trip
	Evening	-
	Late Night	-
Saturday	Base	-
	Non-Base	-
	Early / Late	-
Sunday	Base	-
	Non-Base	-
	Early / Late	-

Service Changes

- One trip will be added to Route 415 at 6:00 a.m..



Justification

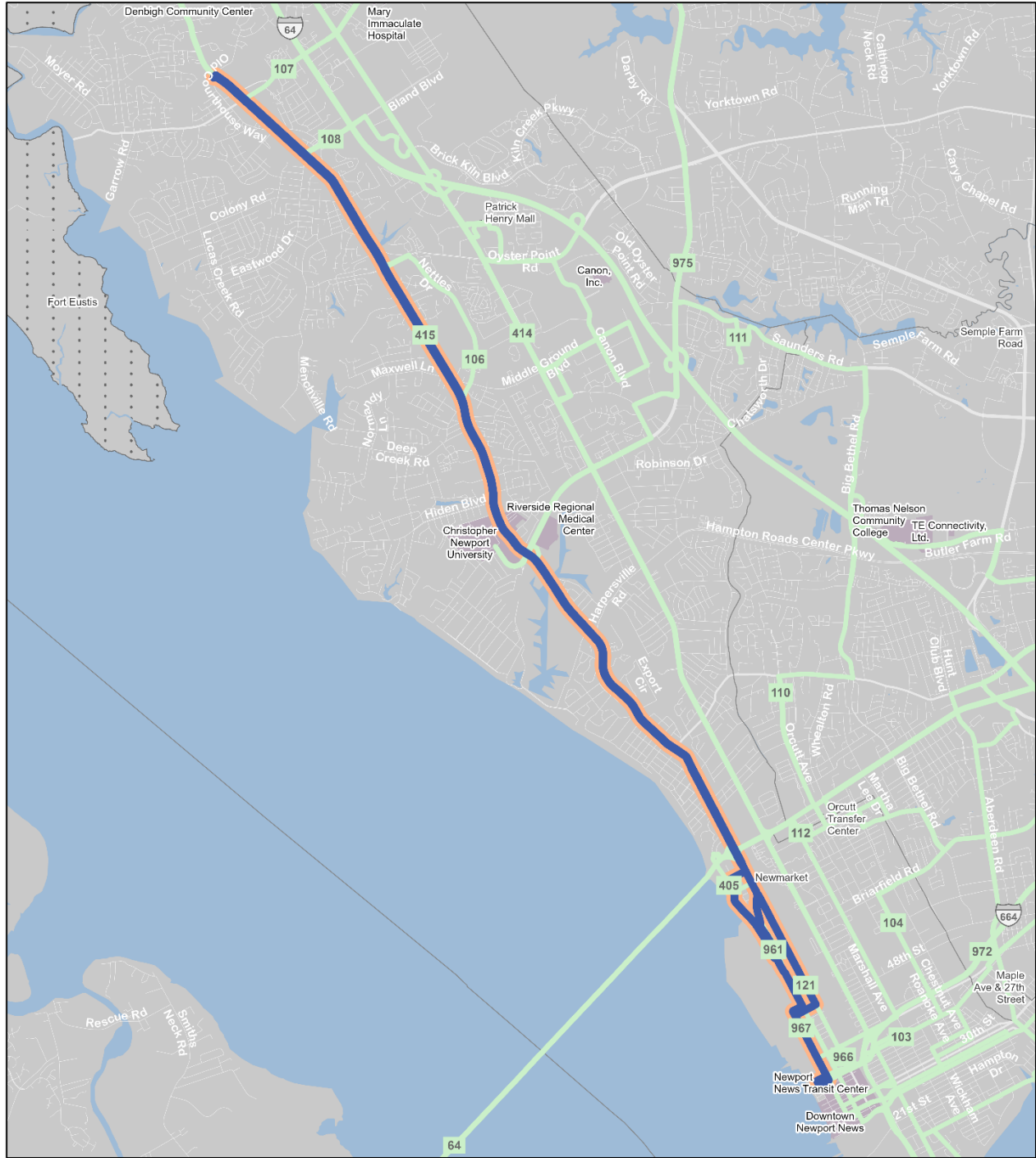
- The additional trip will be added to meet shift-specific demand.

Route 415

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 430






Route 430

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 430

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Denbigh Fringe	Denbigh Fringe
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	5:35 a.m. - 6:30 a.m.; 3:40 p.m. - 4:24 p.m.	5:00 a.m. - 5:55 a.m.; 3:30 p.m. - 4:24 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	2 Trips	3 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One trip will be added to Route 430 at 5:00 a.m.. Another will be added at 3:30 p.m..



Justification

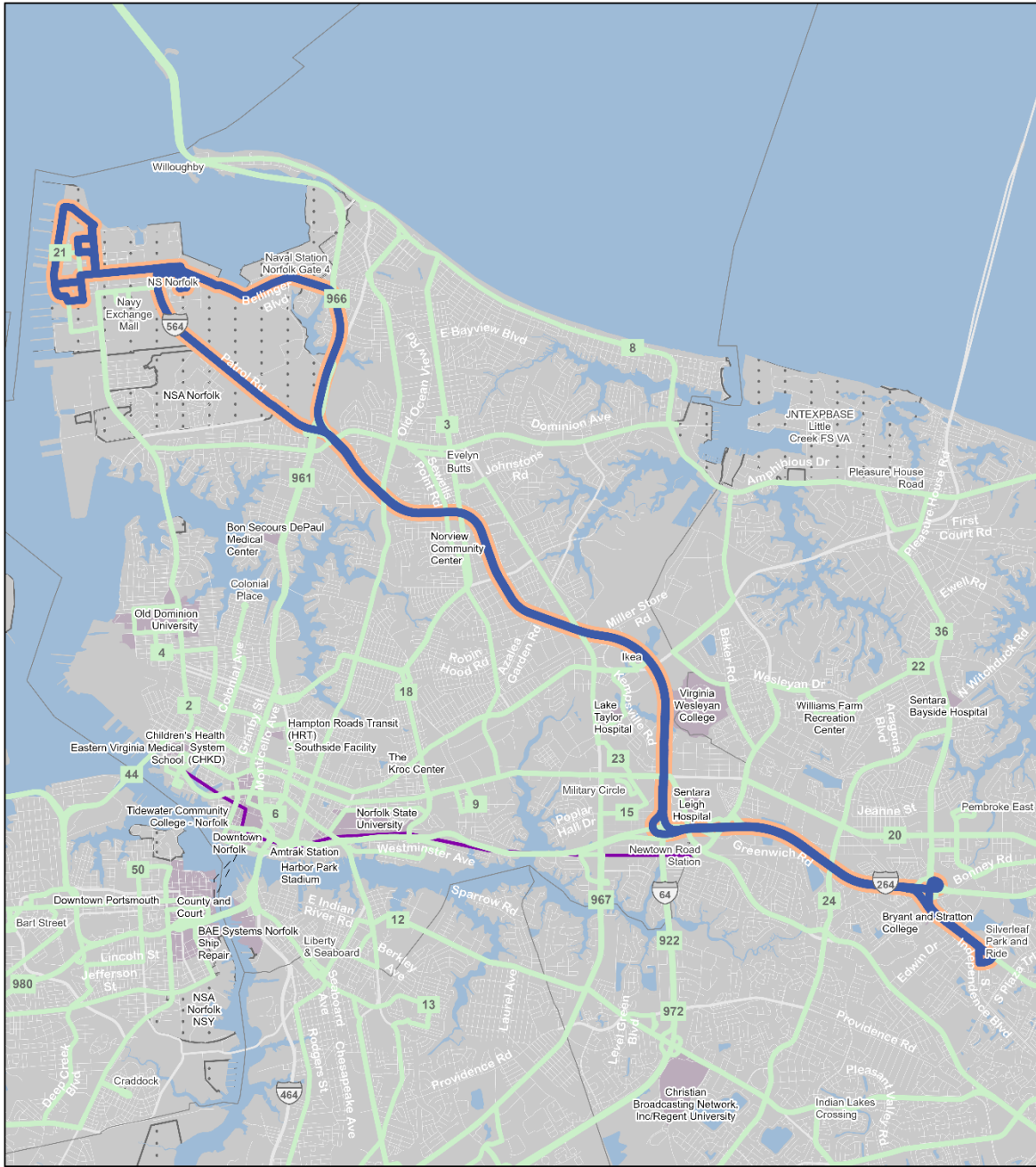
- The additional trips will be added to meet shift-specific demand.

Route 430

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One trip is added in the early period. One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 919



Route 919

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 919

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Silverleaf Park & Ride / Naval Station Norfolk Gate 4	Silverleaf Park & Ride / Naval Station Norfolk Gate 4
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service		
Span		
	Existing	Planned
Weekday	5:10 a.m. - 7:26 a.m.; 2:54 p.m. - 5:03 p.m.	5:10 a.m. - 7:26 a.m.; 2:54 p.m. - 4:13 p.m.
Saturday	-	-
Sunday	-	-

Headway			
	Existing	Planned	
Weekday	Early	1 Trip	1 Trip
	AM Peak	2 Trips	2 Trips
	Midday	-	-
	PM Peak	4 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Note
Service on this route is currently suspended due to low ridership during the Covid-19 pandemic (as of November 2021).

Service Changes

- The 3:18 p.m. trip on MAX Route 919 will be eliminated.



Justification

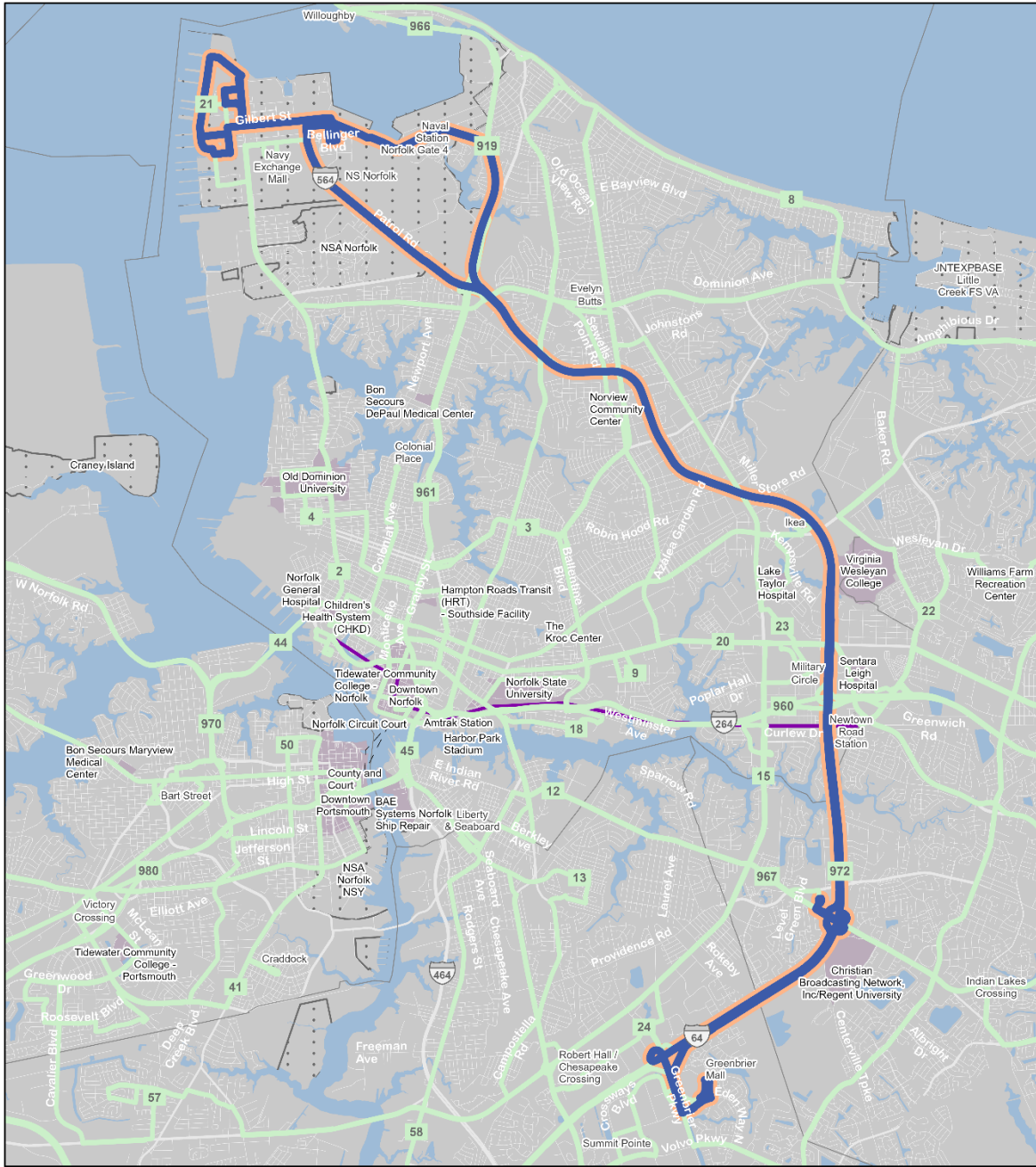
- Few passengers utilize the 3:18 p.m. trip on the current MAX Route 919 service. The resources from this trip will be used more effectively elsewhere in the system.

Route 919

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One PM peak period trip is removed.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 922



Route 922

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 922

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Greenbrier Mall Park & Ride / Naval Station Norfolk Gate 4	Greenbrier Mall Park & Ride / Naval Station Norfolk Gate 4
Jurisdictions	Chesapeake, Norfolk, Virginia Beach	Chesapeake, Norfolk, Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	5:00 a.m. - 7:13 a.m.; 2:55 p.m. - 4:42 p.m.	5:00 a.m. - 6:10 a.m.; 2:55 p.m. - 3:45 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	3 Trips	3 Trips
	AM Peak	1 Trip	-
	Midday	-	-
	PM Peak	3 Trips	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Note
Service on this route is currently suspended due to low ridership during the Covid-19 pandemic (as of November 2021).

Service Changes

- The 6:10 a.m. and 3:44 p.m. trips on MAX Route 922 will be eliminated.



Justification

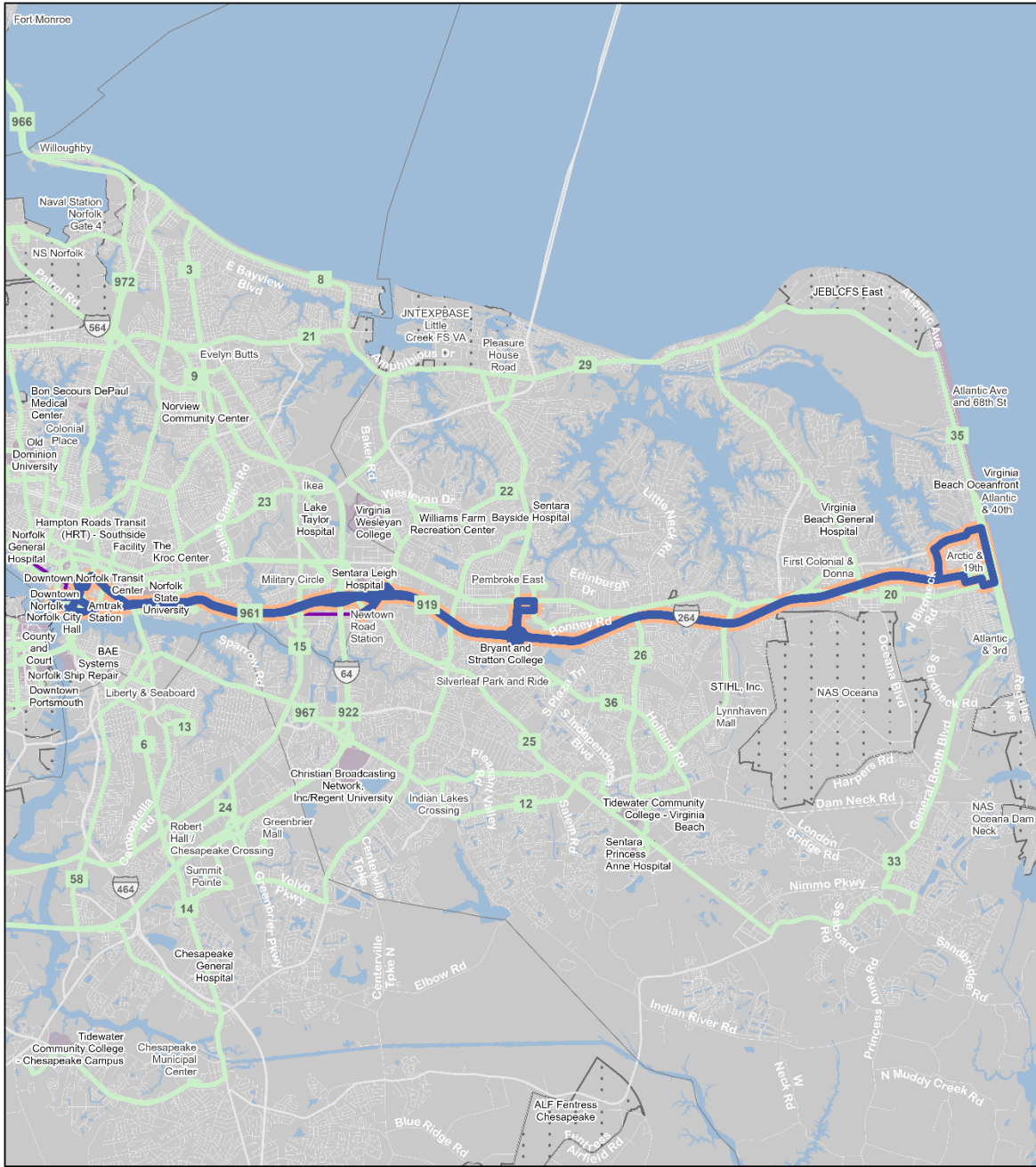
- Few passengers utilize the 6:10 a.m. and 3:44 p.m. trips on the current service. The resources from these trips will be used more effectively elsewhere in the system.

Route 922

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is removed. One PM peak period trip is removed.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 960



Route 960

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 960

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk to Virginia Beach	Norfolk to Virginia Beach
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:35 a.m. - 8:19 p.m.	5:00 a.m. - 9:00 p.m.
Saturday		6:30 a.m. - 8:19 p.m.	5:00 a.m. - 9:00 p.m.
Sunday		7:50 a.m. - 8:44 p.m.	5:00 a.m. - 9:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.
- Service will operate hourly from 5:00 a.m. to 9:00 p.m. seven days a week.



Justification

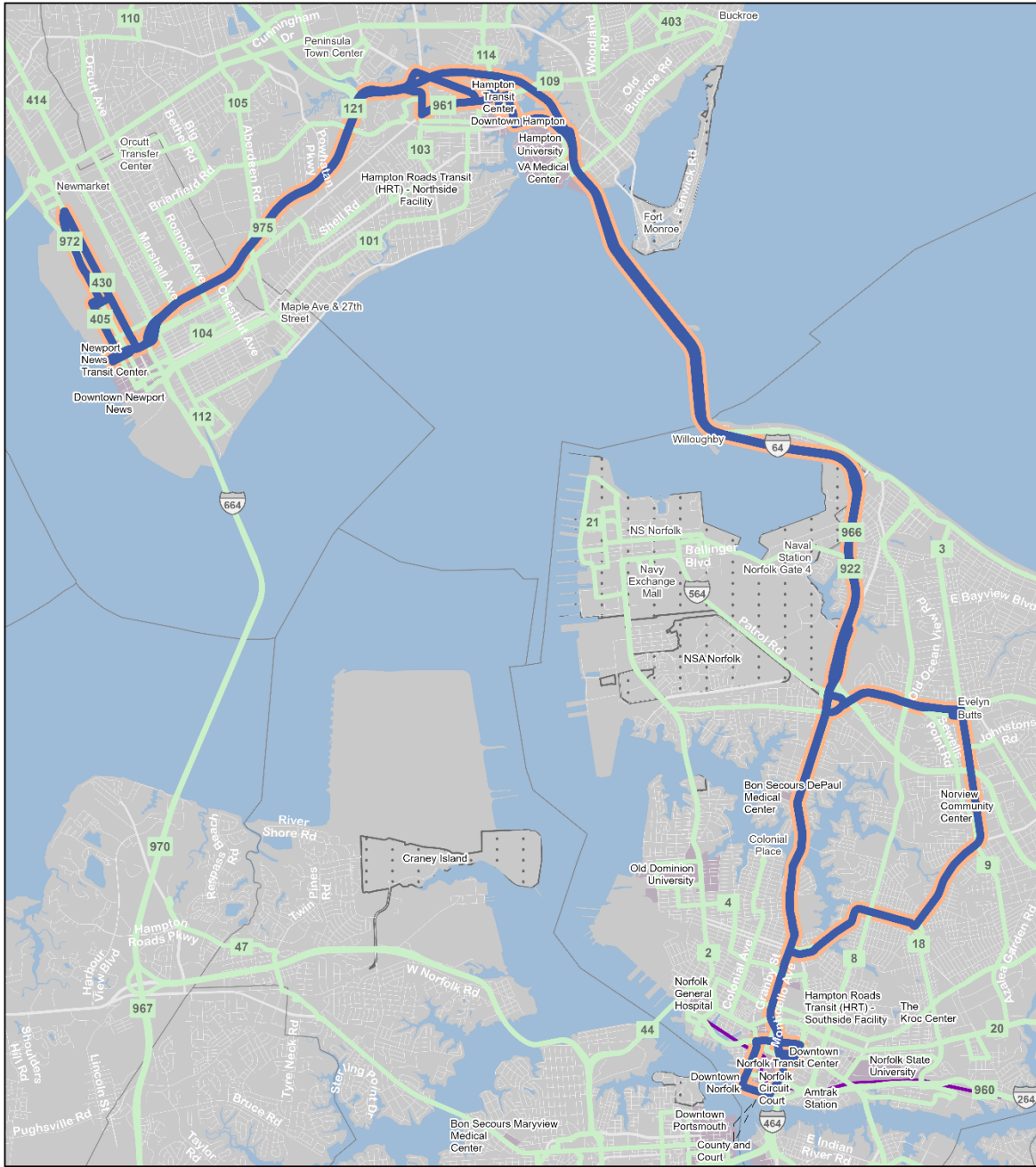
- Extending the span of service will allow more riders with earlier or later shift times at the Oceanfront to use the express MAX Route 960 service in lieu of Route 20 for faster trips. Now that MAX Route 960's fare has been lowered to that of regular fixed-route service (as of November 2021), it will become more attractive for riders, and the span increase is warranted. The performance will be monitored to determine whether any increases in service are warranted due to new demand.

Route 960

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	(This change will technically occur towards the end of FY 2022) Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.	✓		✓
FY 2024	Improve span to 5:00 a.m. to 9:00 p.m. every day.		✓	
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 961



Route 961

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 961

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News / Hampton / Norfolk	Newport News / Hampton / Norfolk
Jurisdictions	Norfolk, Hampton, Newport News	Norfolk, Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		4:55 a.m. - 11:12 p.m.	4:55 a.m. - 11:12 p.m.
Saturday		4:58 a.m. - 10:57 p.m.	4:58 a.m. - 10:57 p.m.
Sunday		7:00 a.m. - 8:58 p.m.	7:00 a.m. - 8:58 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	40	40
	Non-Base	60	60
	Early / Late	-	-
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

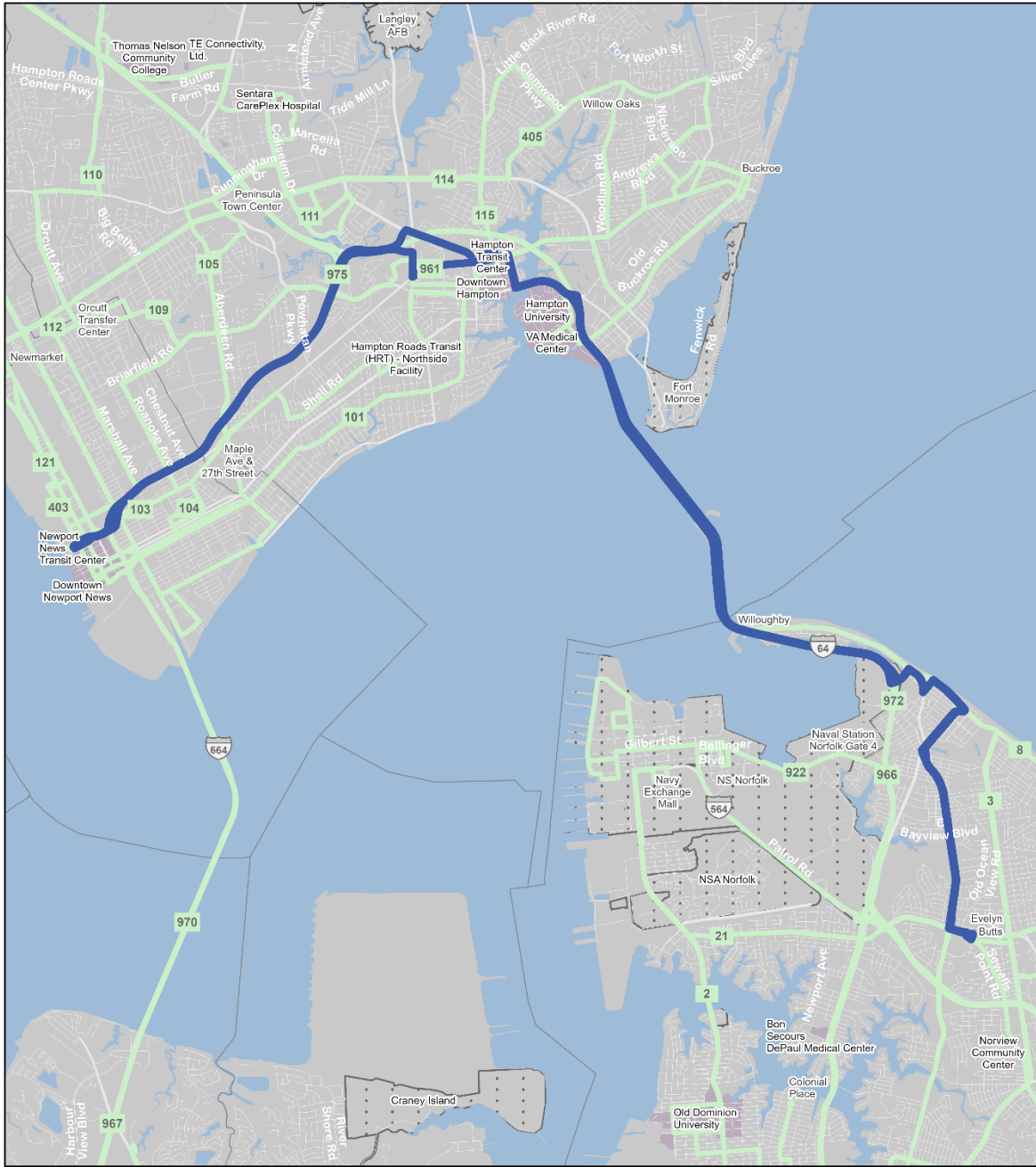
- MAX Route 961 service fulfills a need in terms of getting employees to work throughout the day and the service provided will remain unchanged. With the recent lowering of MAX Route 961 fare to that of regular fixed-route service (as of November 2021), the performance will be monitored to determine whether any increases in service are warranted due to new demand.

Route 961

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 962



Route 962

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 962

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Newport News / Hampton / Evelyn T. Butts Avenue
Jurisdictions	-	Norfolk, Hampton, Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	-	5:30 a.m. - 6:30 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	-	60
	AM Peak	-	60
	Midday	-	60
	PM Peak	-	60
	Evening	-	60
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- This is a new MAX service that will connect Evelyn Butts Transit Center to Hampton and Newport News. Service will operate hourly on weekdays from 5:30 a.m. to 6:30 p.m..



Justification

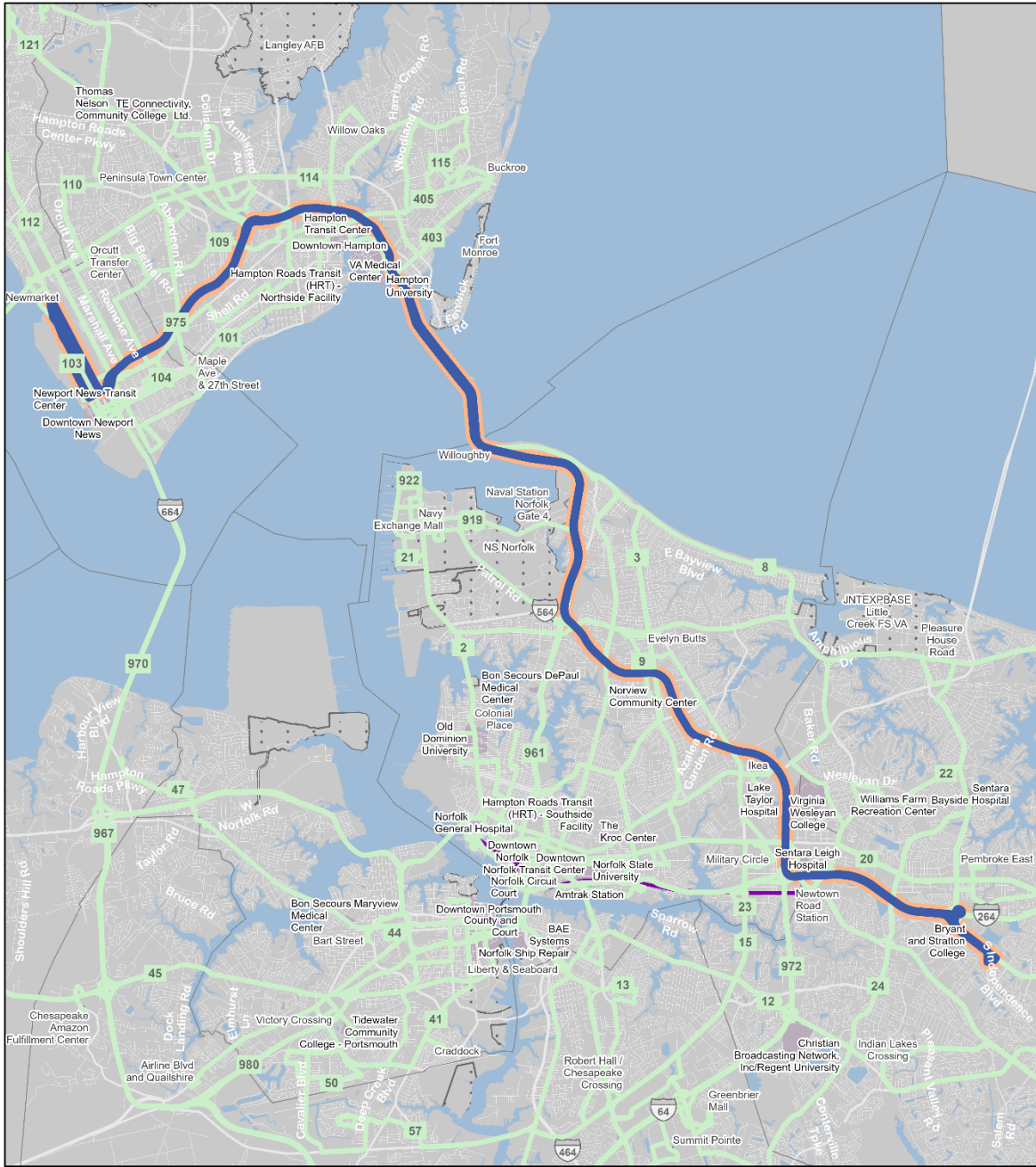
- This new route will allow for more convenient and frequent connections from the northern portion of Norfolk including the Little Creek corridor to the Peninsula (combined with other existing MAX routes).

Route 962

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service not yet implemented.			
FY 2024	Service not yet implemented.			
FY 2025	Introduce service on weekdays from 5:30 a.m. to 6:30 p.m., operated hourly.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 966



Route 966

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 966

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Silverleaf Park & Ride / Newport News Transit Center	Silverleaf Park & Ride / Newport News Transit Center
Jurisdictions	Newport News, Virginia Beach	Newport News, Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	5:20 a.m. - 6:31 a.m.; 3:40 p.m. - 5:03 p.m.	5:20 a.m. - 7:00 a.m.; 3:40 p.m. - 5:45 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	2 Trips	2 Trips
	AM Peak	-	1 Trip
	Midday	-	-
	PM Peak	2 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One AM peak trip and one PM peak trip will be added to MAX Route 966.



Justification

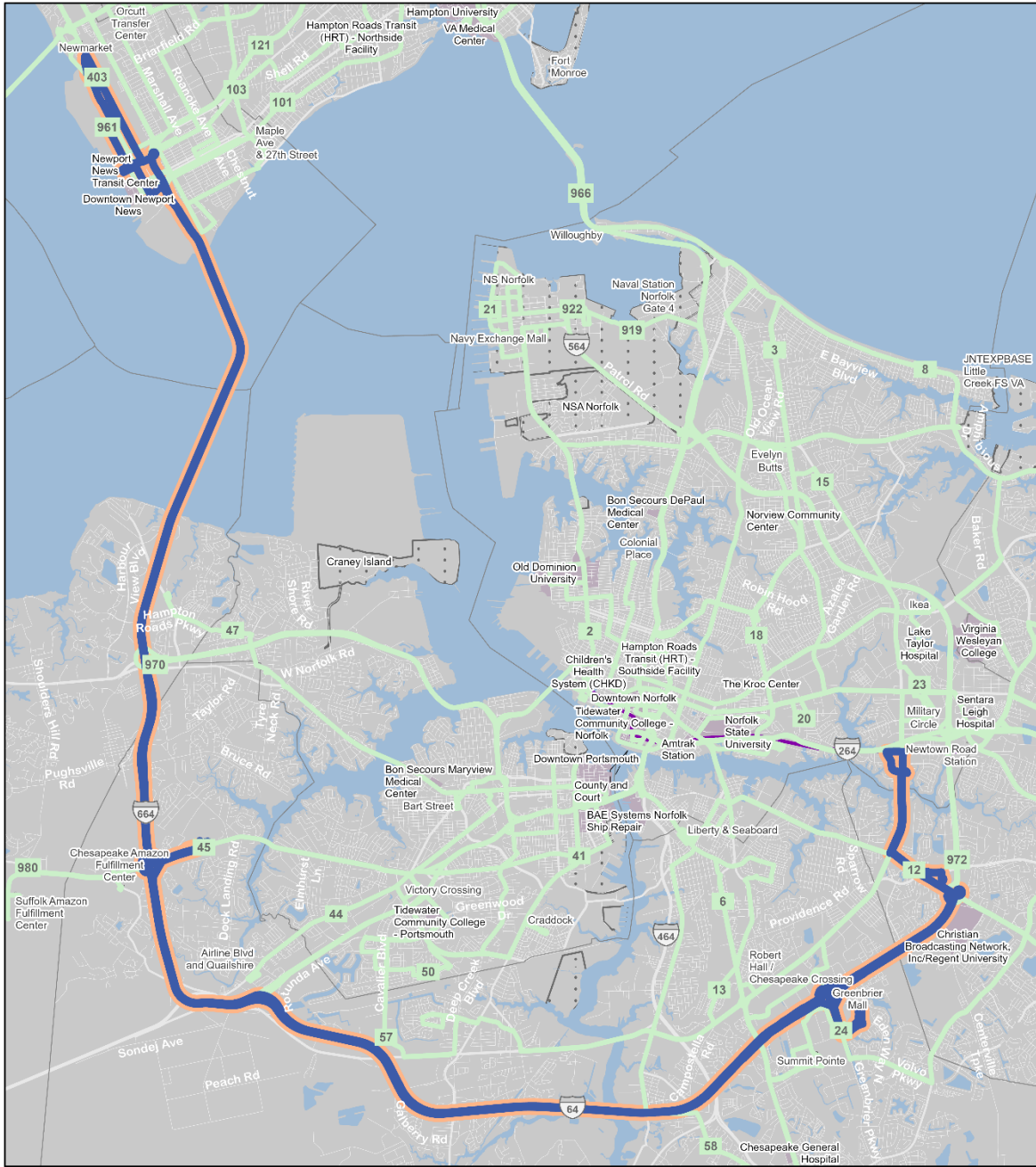
- The additional trips will be added to meet shift-specific demand.

Route 966

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added. One PM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 967



Route 967

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry
- Military Base
- Activity Center
- City Boundary



Route 967

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Virginia Beach / Chesapeake / Newport News	Virginia Beach / Chesapeake / Newport News
Jurisdictions	Chesapeake, Newport News, Norfolk, Virginia Beach	Chesapeake, Newport News, Norfolk, Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	4:25 a.m. - 7:09 a.m.; 3:00 p.m. - 6:24 p.m.	4:25 a.m. - 7:09 a.m.; 3:00 p.m. - 6:24 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	6 Trips	6 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	7 Trips	7 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

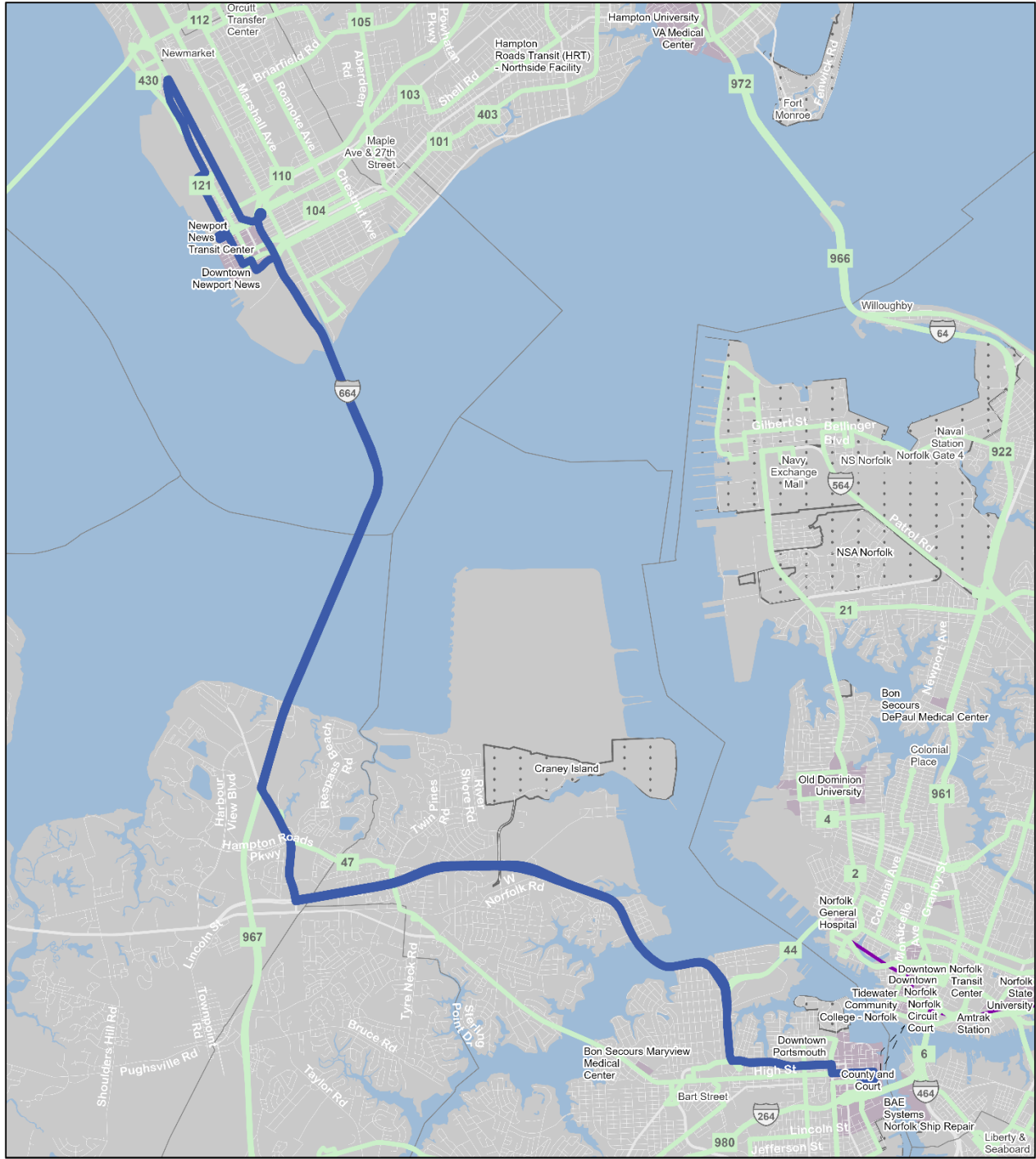
- MAX Route 967 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

Route 967

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 970






Route 970

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 970

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Portsmouth / Newport News
Jurisdictions	-	Portsmouth, Newport News

Level of Service		
Span		
	Existing	Planned
Weekday	-	6:00 a.m. - 6:00 p.m.
Saturday	-	-
Sunday	-	-
Headway		
	Existing	Planned
Weekday	Early	-
	AM Peak	-
	Midday	-
	PM Peak	-
	Evening	-
	Late Night	-
Saturday	Base	-
	Non-Base	-
	Early / Late	-
Sunday	Base	-
	Non-Base	-
	Early / Late	-

Service Changes

- New MAX Route 970 will be implemented in FY 2023 providing express service between Downtown Portsmouth and Downtown Newport News with a stop at the Park & Sail lot at the intersection of Court Street and Bart Street.
- Route 970 will operate Monday through Friday, with four trips operating during the morning and afternoon peak periods. Two trips will be provided in each direction.
- Route 970 is one option for future expansion of MAX service. In the next annual update, HRT will explore the possibility of providing service to Norfolk Naval Shipyard in Portsmouth. A survey is currently underway as of Fall 2021 asking customers about service to Norfolk Naval Shipyard. HRT will evaluate the route pattern for the new Route 970 which may include serving the Park and Sail lot at Court and Bart Streets and connecting to Newport News via I-264 to I-664.



Justification

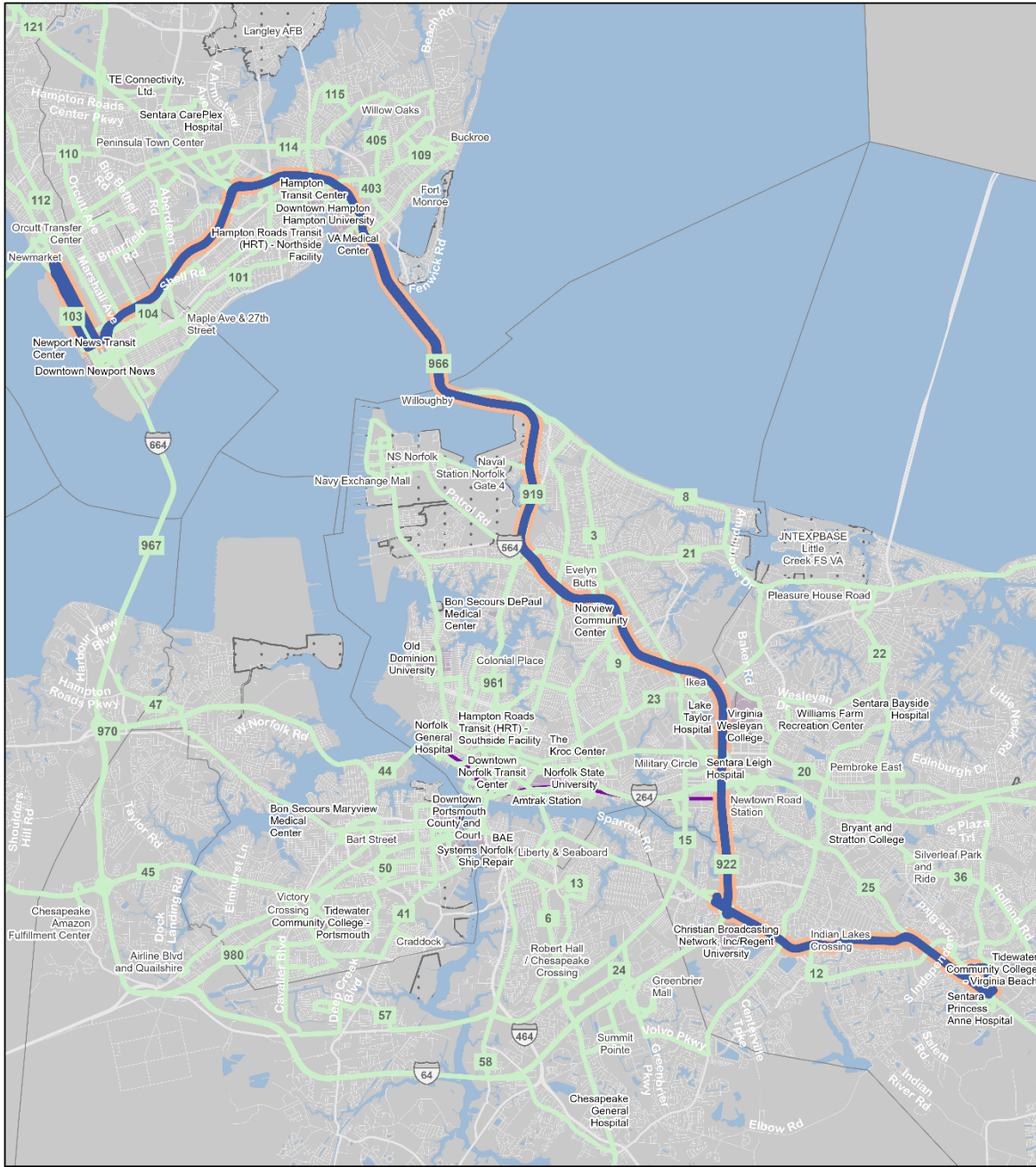
- Route 970 will serve a need for a new peak hour service between Downtown Portsmouth and Newport News Transit Center and Shipyard.

Route 970

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service on MAX Route 970 begins, operating between downtown Portsmouth and Newport News shipbuilding. Two AM peak trips and two PM peak trips in each direction.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 972



Route 972

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

— Light Rail

--- Ferry

 Military Base

 Activity Center

 City Boundary



Route 972

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Virginia Beach / Newport News	Virginia Beach / Newport News
Jurisdictions	Newport News, Virginia Beach	Newport News, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:15 a.m. - 6:17 a.m.; 3:40 p.m. - 4:58 p.m.	5:15 a.m. - 7:30 a.m.; 3:40 p.m. - 5:30 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	-	1 Trip
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One AM peak period trip and one PM peak period trip will be added to MAX Route 972.



Justification

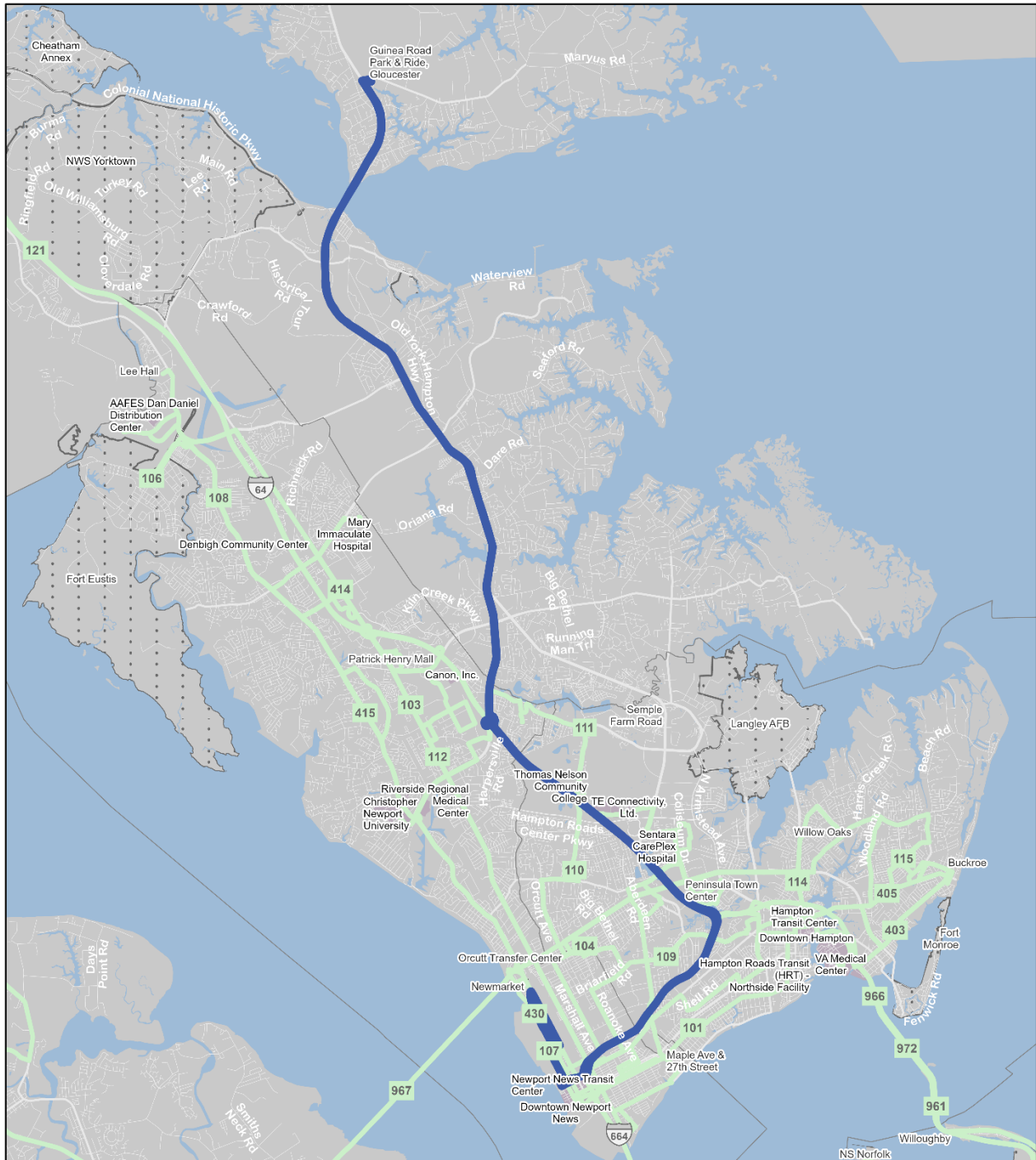
- The additional trips will be added to meet shift-specific demand.
- HRT was awarded a grant from the Commonwealth called the Interstate Operations and Enhancement Program to improve service on routes that operate on or run parallel to I-64: Routes 106, 107, and MAX Route 972. Improvements to MAX Route 972 will be partially paid for by this grant.

Route 972

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added. One PM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 975





Route 975

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 975

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Gloucester / Newport News
Jurisdictions	-	Newport News, Gloucester

Level of Service		
Span		
	Existing	Planned
Weekday	-	6:00 a.m. - 9:00 a.m.; 3:00 p.m. - 6:00 p.m.
Saturday	-	-
Sunday	-	-
Headway		
	Existing	Planned
Weekday	Early	-
	AM Peak	-
	Midday	-
	PM Peak	-
	Evening	-
	Late Night	-
Saturday	Base	-
	Non-Base	-
	Early / Late	-
Sunday	Base	-
	Non-Base	-
	Early / Late	-

Service Changes

- MAX Route 975 will provide new peak period directional commuter express service between Gloucester (VDOT Park & Ride at the intersection of Route 216-Guinea Rd and York Crossing) and the Newport News Shipyard via US-17 and I-64. The route will operate 3 trips in the AM peak and 3 trips in the PM peak.



Justification

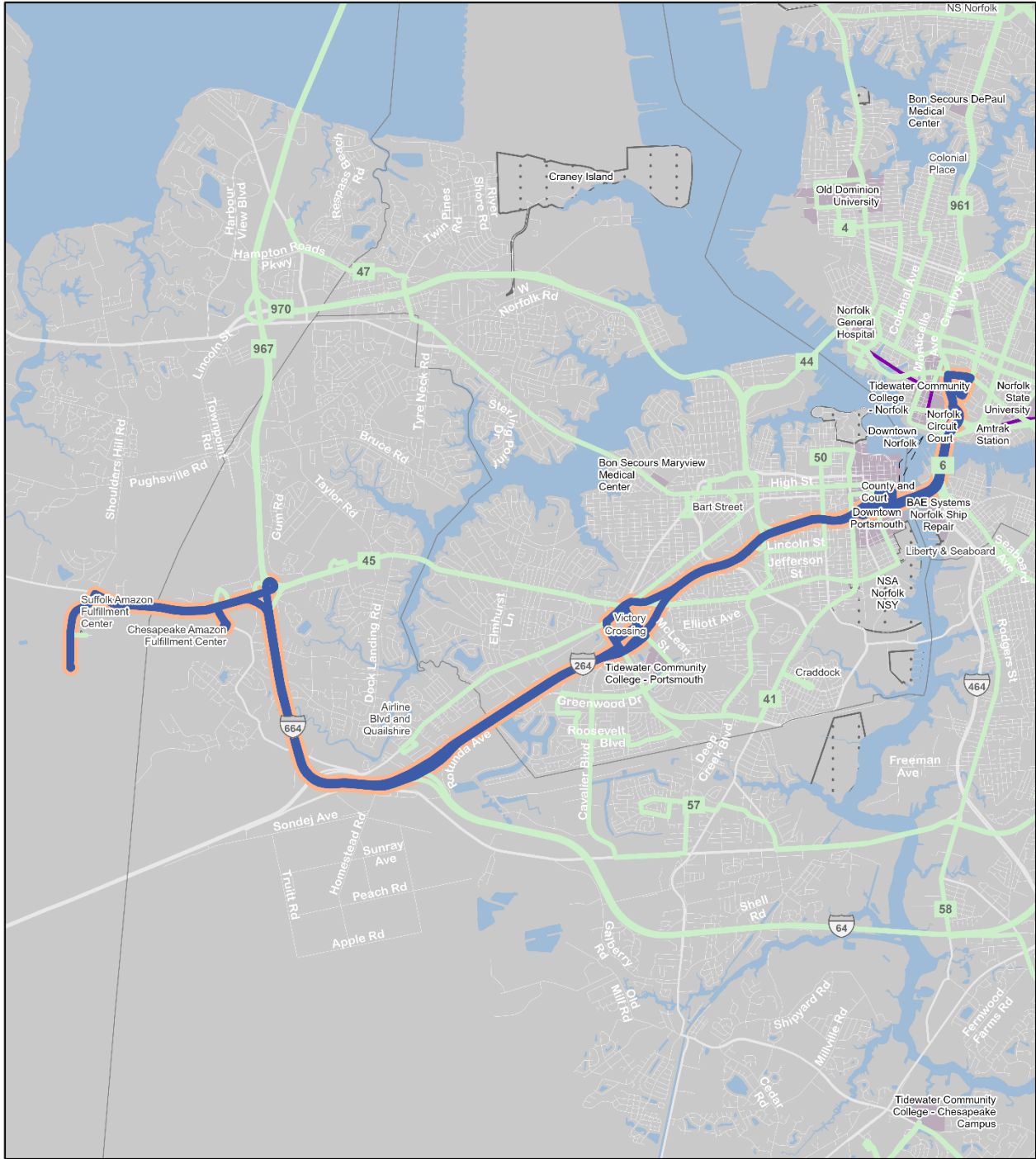
- The efficient movement of personnel to the Shipyard is critical to support national military readiness as well as for achieving the economic development goals of greater Hampton Roads. MAX commuter bus service via this new bus route can provide an alternative to automobile travel and a way for employees to avoid daily congestion and the Coleman Bridge toll.
- HRT was awarded a SMART SCALE grant from VDOT to support the purchase of two new buses for this route.

Route 975

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service not yet implemented.			
FY 2024	Service not yet implemented.			
FY 2025	Service not yet implemented.			
FY 2026	MAX service from Gloucester begins operation. Three AM peak trips and three PM peak trips in each direction.	✓	✓	✓
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 980



Route 980

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 980

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk / Portsmouth / Chesapeake / Suffolk	Norfolk / Portsmouth / Chesapeake / Suffolk
Jurisdictions	Norfolk, Portsmouth, Chesapeake, Suffolk	Norfolk, Portsmouth, Chesapeake, Suffolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Saturday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Sunday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	2 Trips	3 Trips
	Midday	-	-
	PM Peak	2 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	4 Trips	6 Trips
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	4 Trips	6 Trips
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- The new Amazon facilities in Chesapeake and Suffolk are scheduled to open in early 2022. MAX Route 980 will be introduced in early 2022, dependent upon when the Amazon facilities open, with four trips per day and will be monitored for performance. Service is planned to be increased to six trips per day depending on the route's performance.
- All routes which serve Victory Crossing, including MAX Route 980, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.

Justification

- Amazon is bringing hundreds of new jobs to Hampton Roads. The new route will help connect workers to jobs from across the region via the express MAX Route 980 and eventually via the extended Route 45 as well. This will provide economic benefit to the region. Once MAX Route 980 begins service it will be monitored for performance.

Route 980

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes.	✓		
FY 2024	Two additional trips will be added to the MAX Route 980, depending upon initial service performance.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2023	No changes.			
Out Years	No changes.			

Systemwide Maps

Additional maps (including the four above) depicting systemwide service in the peak periods for the ten years of the plan can be found in **Appendix B: Phased System Maps for Locally Cost-Constrained Plan**.

Figure 3-1: FY 2032 Weekday AM Peak Frequency (Peninsula)

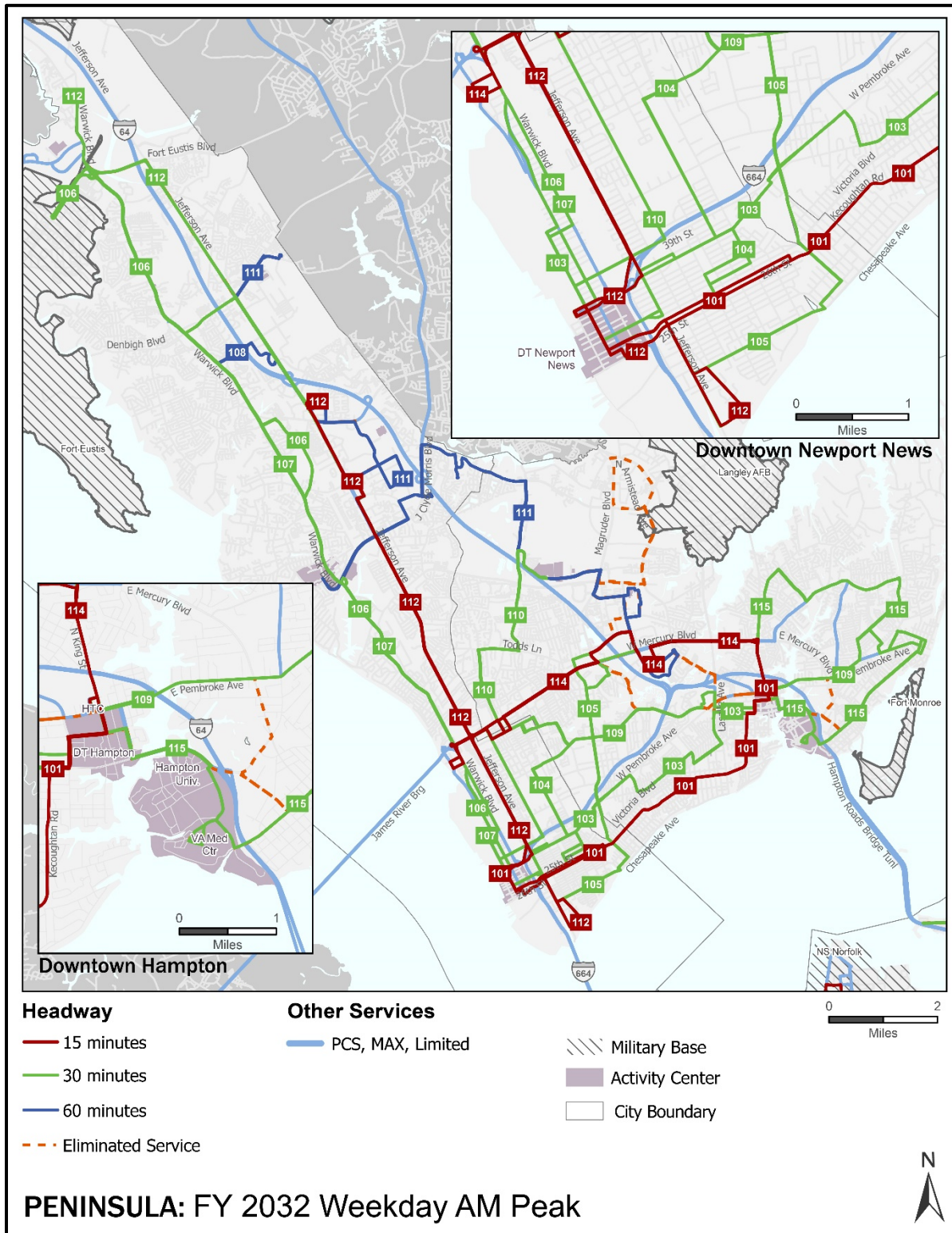


Figure 3-2: FY 2032 Weekday Peak Frequency (Southside)

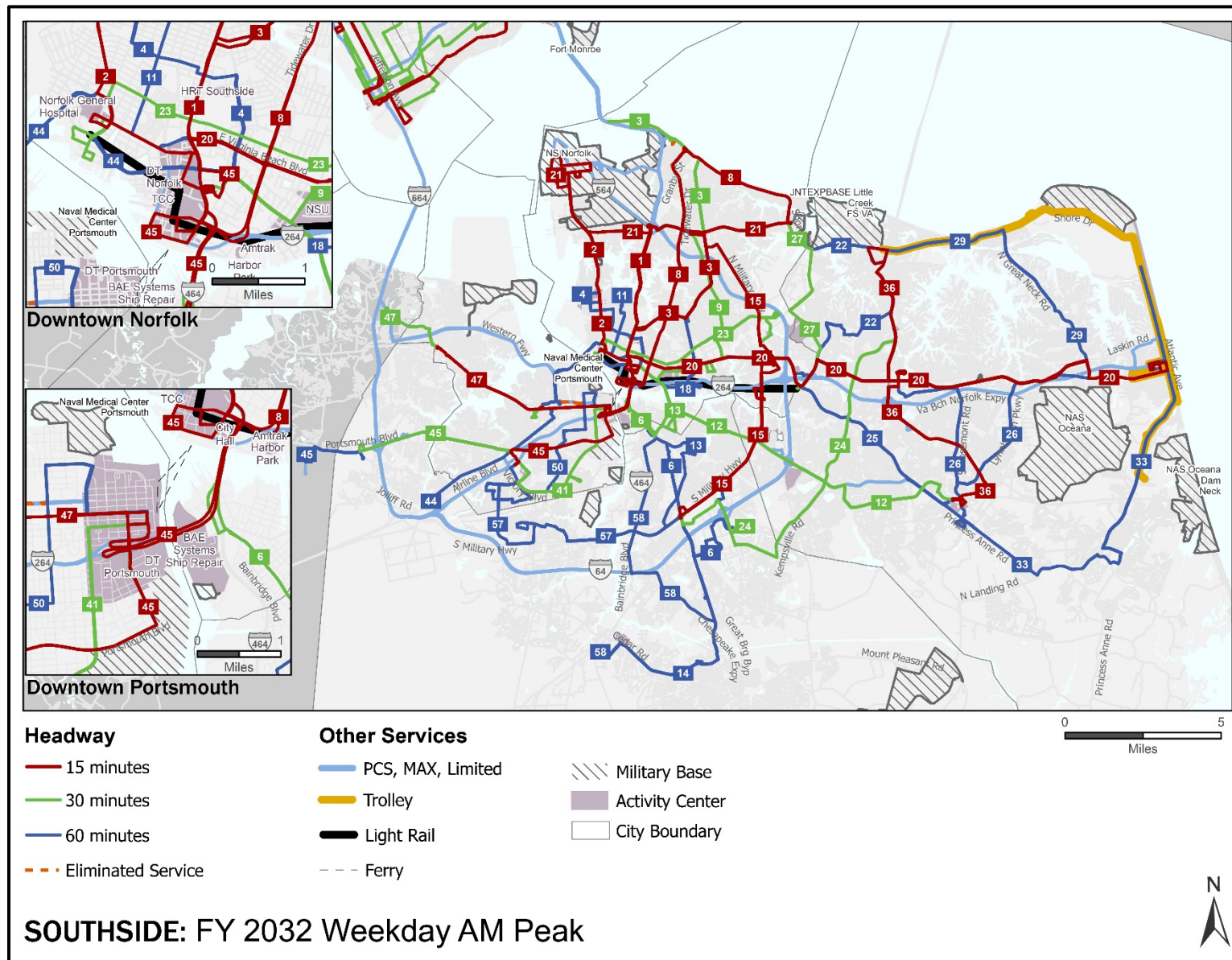


Figure 3-3: Service Target Weekday Peak Frequency (Peninsula)

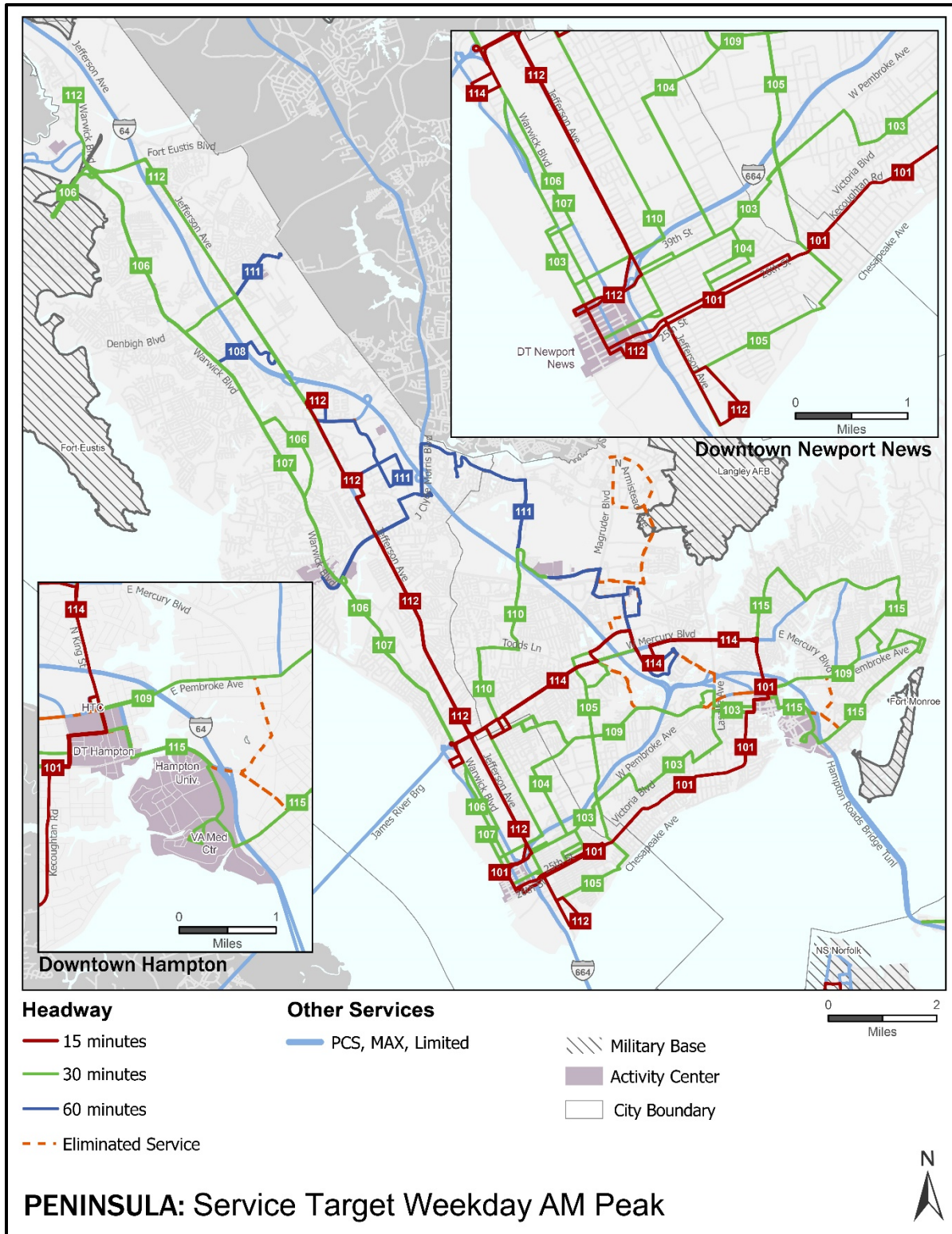
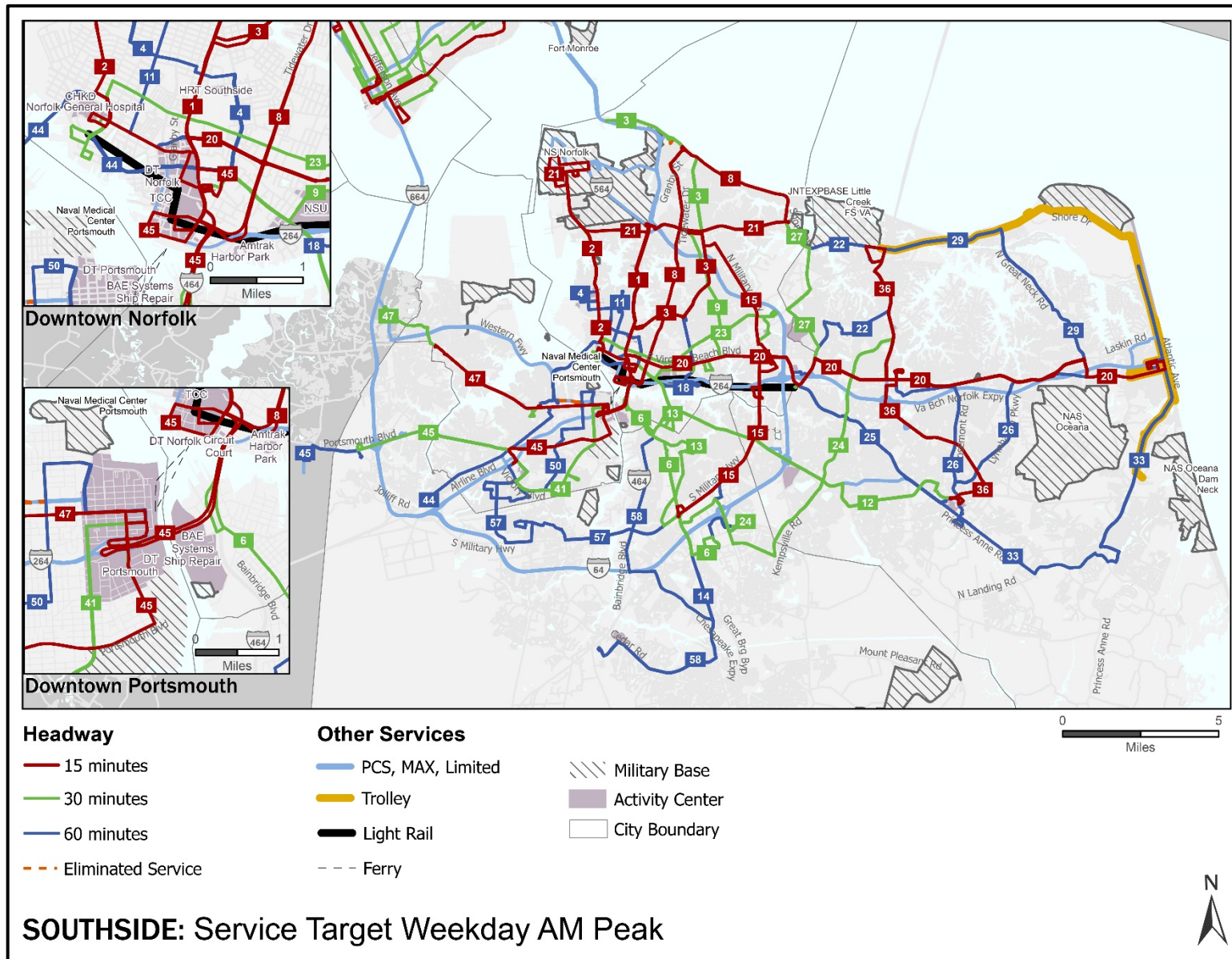


Figure 3-4: Service Target Weekday Peak Frequency (Southside)



3.2 Estimated Ridership Due to Improvements

Table 3-1 shows the estimated weekday daily ridership and estimated passengers per revenue hour based on the planned service improvements as described in the route sheets in **Section 3.1**. Estimated ridership is shown as a percentage change from calendar year 2019 ridership (because of the depressed 2020 ridership due to the COVID-19 pandemic) as modeled by the ridership estimation methodology detailed in **Appendix C: Estimated Ridership Methodology and Results**. The methodology does not account for the COVID-19 pandemic’s impact on transit ridership; in the near-term, ridership is expected to be lower than pre-pandemic and it is unknown at what rate ridership will return to more “normal” levels. The methodology also does not account for forecasted increases in population and employment in the Hampton Roads region over the next decade.

For local fixed-route service, footnotes explain any estimated decreases in ridership and any estimated increases in ridership greater than 50 percent. Similar estimated changes in ridership for Limited/Express routes are a direct result of trips being added or removed; the methodology uses observed ridership data and transit demand elasticities to estimate the impact of alignment, span, and headway improvements.

Based on the improvements to the routes that were identified as Regional Backbone services, including the increased span and frequency of service, annual ridership is projected to exceed 14 million passenger trips in FY 2032, a 33 percent increase over calendar year 2019 (i.e., the most recent year of fully operated HRT bus service prior to the implementation of the improvements related to the RTS). By FY 2032, the daily weekday ridership is projected to increase by 31 percent. Weekday ridership on Regional Backbone routes alone (highlighted in gray in Table 3-1) is projected to increase by 47 percent. On weekends, systemwide ridership in FY 2032 is projected to be 20 percent higher on Saturday and 64 percent higher on Sunday, due in part to new Sunday service being introduced on 12 routes. The complete results for weekday, Saturday, and Sunday estimated ridership are presented in **Appendix C**.

Table 3-1: Estimated Weekday Daily Ridership for Improvements Compared to 2019 Ridership

Route		Existing Weekday Daily Ridership (CY 2019)	Forecasted Weekday Daily Ridership (FY 2032)	Weekday Daily Ridership Percent Change (CY 2019 - FY 2032)
Southside Total		29,825	37,984	27%
Southside Routes	1	2,735	2,839	4%
	2	841	1,103	31%
	3	1,745	2,912	67% ²
	4	347	364	5%
	5	238	0	Route Eliminated
	6	661	782	18%
	8	1,288	2,938	128% ³
	9	809	838	4%
	11	173	202	17%
	12	433	586	35%

² Route 3 ridership is estimated to increase after the elimination of Routes 1 and 5 on Ocean View Avenue.

³ Route 8 ridership is estimated to increase after replacing Route 1 service on Ocean View Avenue and Shore Drive to Joint Expeditionary Base Little Creek.

Route		Existing Weekday Daily Ridership (CY 2019)	Forecasted Weekday Daily Ridership (FY 2032)	Weekday Daily Ridership Percent Change (CY 2019 - FY 2032)
Southside Routes	13	951	1,115	17%
	14	357	292	-18% ⁴
	15	2,219	2,895	30%
	18	131	136	3%
	20	3,680	4,968	35%
	21	1,720	2,041	19%
	22	322	375	16%
	23	1,227	1,352	10%
	24	146	233	60% ⁵
	25	485	514	6%
	26	193	354	83% ⁶
	27	382	660	73% ⁷
	29	315	221	-30% ⁸
	30	1,986	1,986	0%
	31	397	397	0%
	33	457	485	6%
	34-Sum	0	0	0% ⁹
	34-OS	0	0	0% ⁹
	35	633	633	0%
	36	530	1,391	162% ¹⁰
41	374	1,034	176% ¹¹	
43	174	0	Route Eliminated	

⁴ Route 14 ridership is estimated to decrease after its service on Great Bridge Boulevard, River Walk Parkway, and Cedar Road to Tidewater Community College is replaced by Route 58, although increasing development in the Summit Pointe area may increase ridership in the future.

⁵ Route 24 ridership is estimated to increase due to the elimination of Route 15 at Greenbrier Mall and the elimination of Route 55 between Greenbrier Mall and Robert Hall Boulevard.

⁶ Route 26 ridership is estimated to increase due to its extended alignment between Pembroke East and First Colonial Road & Donna Drive.

⁷ Route 27 ridership is estimated to increase due to improved off-peak headways and its realignment along Diamond Springs Road and Shore Drive.

⁸ Route 29 ridership is estimated to decrease after its service between First Colonial Road & Donna Drive and Lynnhaven Mall is replaced by Route 26.

⁹ VB Wave Route 34 summer and off-season service will not operate on weekdays. For weekend ridership estimates, see Appendix C.

¹⁰ Route 36 ridership is estimated to increase more than 150 percent due to its extension along Independence Boulevard and reclassification as a Regional Backbone route with improved span and headways.

¹¹ Route 41 ridership is estimated to nearly triple after replacing a segment of Route 45 with high ridership along Effingham Street.

Route		Existing Weekday Daily Ridership (CY 2019)	Forecasted Weekday Daily Ridership (FY 2032)	Weekday Daily Ridership Percent Change (CY 2019 - FY 2032)
Southside Routes	44	423	419	-1% ¹²
	45	1,598	1,713	7%
	47	932	1,240	33%
	50	199	339	71% ¹³
	55	190	0	Route Eliminated
	57	360	431	20%
	58	175	198	13%
Peninsula Total		11,791	16,239	38%
Peninsula Routes	101	829	1,541	86% ¹⁴
	102	223	0	Route Eliminated
	103	882	1,016	15%
	104	680	548	-19% ¹⁵
	105	661	860	30%
	106	1,130	1,464	30%
	107	949	1,252	32%
	108	541	618	14%
	109	211	1,298	517% ¹⁶
	110	480	470	-2% ¹⁷
	111	402	761	89% ¹⁸
	112	1,687	3,231	92% ¹⁹
	114	1,284	2,190	71% ²⁰

¹² Route 44 ridership is estimated to decrease due to its realignment from Portsmouth Boulevard to Airline Boulevard, which has lower ridership.

¹³ Route 50 ridership is estimated to increase due to its extended alignment which replaces Route 43 service through downtown Portsmouth and Route 41 service in the Roosevelt Boulevard neighborhood.

¹⁴ Route 101 ridership is estimated to increase due to its reclassification as a Regional Backbone route with improved span and headways.

¹⁵ Route 104 ridership is estimated to decrease due to its realignment from Marshall Avenue to provide new service along Roanoke Avenue.

¹⁶ Route 109 ridership is estimated to increase more than six times due to its extension to replace Route 110 service between the Hampton Transit Center and Net Center, combined with improved span and headways.

¹⁷ Route 110 ridership is forecast to decrease after its realignment to Newport News Transit Center decreases the length of the route.

¹⁸ Route 111 ridership is forecast to nearly double after its extensions south to Peninsula Town Center and north to Woodside Lane & Old Denbigh Boulevard.

¹⁹ Route 112 ridership is forecast to nearly double after its extensions south to 6th Street & Ivy Avenue, which occurred in FY 2021 and is not reflected in the 2019 ridership data, and north to Lee Hall, combined with improved headways.

²⁰ Route 114 ridership is forecast to increase due to improved span and headways.



Route		Existing Weekday Daily Ridership (CY 2019)	Forecasted Weekday Daily Ridership (FY 2032)	Weekday Daily Ridership Percent Change (CY 2019 - FY 2032)
Peninsula Routes	115	358	919	157% ²¹
	116	452	0	Route Eliminated
	117	230	0	Route Eliminated
	118	550	0	Route Eliminated
	120	169	0	Route Eliminated
	64	74	74	0%
PCS Total		312	468	50%
PCS Routes	403	29	60	101%
	405	50	99	97%
	414	109	110	0%
	415	30	62	94%
	430	93	137	52%
MAX Total		1,613	2,294	42%
MAX Routes	121	48	48	0%
	919	81	70	-14%
	922	64	50	-21%
	960	275	294	7%
	961	732	732	0%
	962	-	337	New Route
	966	93	138	50%
	967	276	276	0%
	970	-	104	New Route
	972	44	89	100%
	975	-	78	New Route
	980	-	78	New Route ²²
Weekday System Total		43,541	56,985	31%

²¹ Route 115 ridership is forecast to increase by more than 150 percent due to its extension to replace Route 117 and Route 120 service, combined with improved headways.

²² MAX Route 980 was introduced in Fall 2021, after ridership data was available. For the purposes of the ridership estimation analysis, Route 980 was treated as a new route.

3.3 Prioritization of Planned Service Improvements

3.3.1 Prioritization

The TSP guidelines require that each “project” be assigned a time frame with estimated capital and operating costs. For this annual update of the TSP, the three time frames are:

- Short-Term: FY 2023 – FY 2025
- Mid-Term: FY 2026 – FY 2029
- Long-Term: FY 2030 – FY 2032

The prioritization process was based on first implementing the improvements identified in the FY 2023 TSP annual budget letters (a different TSP acronym—Transportation Service Plan) in the first year of the plan and starting two pilots of new on-demand service. For the remainder of the ten-year plan, the implementation of service improvements outlined in **Section 3.1** would balance the annual service increases across each jurisdiction and provide manageable annual increases in operating and capital costs. The service improvements would be implemented incrementally, and not all proposed improvements would be able to occur by FY 2032, leaving additional service changes for implementation in future years.

There are many routes which are being realigned and segments of routes are being taken over by other routes. Because of this, the phasing of the route changes needs to consider how some routes’ realignments are dependent upon others. For this reason, the routes were all placed into “buckets” that group together routes whose alignment changes must happen simultaneously to maintain a maximum amount of coverage in the system. A number of different factors went into deciding which buckets of routes should be prioritized and form Groups A, B, and C. These factors include purchasing the needed in-service and support vehicles, hiring and training operators, designing and building capital improvements, installing new or updated bus signs, as well as many other considerations. Additionally, the limitations provided by the geographic features of the region heavily influenced the ultimate bucket groupings and the phasing of implementation.

The Regional Backbone and Limited/Express routes supported by the Hampton Roads Regional Transit Program and Fund were prioritized for implementation. Regional Backbone routes on the Peninsula that will operate high-frequency service, along with the Local Priority and Coverage routes related to them in buckets, were selected to become “Group A” meaning they will be implemented first. This was in part due to how the route changes on the Peninsula account for only three of the 13 overall Regional Backbone services, requiring a smaller scale level of change across the agency; operationally and logistically it is most sensible to implement the Peninsula services first. The changes proposed for the Southside will be spread across two years, forming “Group B,” and “Group C,” respectively. The second set of Regional Backbone routes prioritized for implementation were Southside routes that spanned multiple jurisdictions (“Group B”) and the third set was Regional Backbone routes that primarily operate in the City of Norfolk (“Group C”).

Table 3-2 summarizes the phased improvements and notes operational investments (i.e., additional revenue hours) and capital investments (i.e., additional vehicles) needed for the service improvements to occur. Estimated operational needs account for implementation during the fall of each fiscal year, or eight months of service in the current fiscal year; any additions to peak vehicle need are noted in the table.

Table 3-3 shows the results of a capital investment analysis that looks at the capacity of transfer facilities to determine whether new capacity would be needed at any of HRT’s most-used facilities to implement the plan. The analysis was based on an hourly facility capacity of 60 minutes per bus bay or equivalent curb space (e.g., a location with three bus bays and one curb space has 240 minutes of capacity per hour). Then, by estimating the layover duration of each bus arrival in the FY 2032 plan, the total minutes of use at each facility was measured for every hour of the day. Finally, the maximum hourly need (during the busiest hour at each facility, or “peak of the peak”) was subtracted from the capacity to find the minimum spare capacity for each transfer facility. Overall, this analysis concluded that the additional trips and vehicles for FY 2032 are within the capacity of all facilities except for the Evelyn T. Butts Transfer Center, which is expected to exceed capacity under the proposed ten-year plan. However, HRT’s CIP calls for a new facility to be in place before capacity issues arise.

Table 3-2: Prioritized Improvements by Time Period

Time Frame	Year	Key Service Improvements	Routes Impacted	Operational Needs	Capital Needs
Short-Term	FY 2023	Group A Regional Backbone and Limited/Express routes implemented. Introduce MAX Route 970 service between Portsmouth and Newport News and new trolley service in Virginia Beach.	Changes to service: Routes 14, 20, 33, 44, 101, 106, 107, 108, 111, 112, 114, 115, 403, 405, 415, 430, 919, 922, 960, 966, 972 Eliminated service: Routes 117, 120 New service: VB Wave Route 34 (Summer), VB Wave Route 34 (Off-Season), MAX Route 970	43,800 additional hours of service	18 new vehicles needed to meet peak vehicle requirements
	FY 2024	Realign routes on the Peninsula and in Norfolk, Portsmouth, and Virginia Beach. Group B Regional Backbone routes implemented.	Changes to service: Routes 1, 6, 8, 13, 15, 20, 22, 25, 27, 33, 36, 41, 43, 44, 45, 47, 50, 57, 104, 105, 106, 107, 108, 109, 110, 111, 115, 960, 980 Eliminated service: Routes 43, 102, 118	109,500 additional hours of service	15 new vehicles needed to meet peak vehicle requirements
	FY 2025	Group C Regional Backbone routes implemented. Span and headway improvements to some routes. Introduce MAX Route 962 between Norfolk, Hampton, and Newport News.	Changes to service: Routes 2, 3, 6, 8, 12, 13, 14, 21, 23, 50, 105, 106, 110 Eliminated service: Route 5 New service: MAX Route 962	96,900 additional hours of service	18 new vehicles needed to meet peak vehicle requirements
	Short-Term Total			250,200 additional hours of service	51 new vehicles needed
Mid-Term	FY 2026	Realign Routes 26 and 29 in Virginia Beach. Introduce MAX Route 975 service between Gloucester and Newport News. Span and headway improvements to some routes.	Changes to service: Routes 11, 26, 29, 41, 44, 57, 58, 105, 110 New service: MAX Route 975	34,400 additional hours of service	1 new vehicle needed to meet peak vehicle requirements
	FY 2027	New Sunday service and span improvements on some routes.	Changes to service: Routes 12, 26, 29, 44, 57, 105, 115	6,800 additional hours of service	No new vehicles needed to meet peak vehicle requirements
	FY 2028	Span and headway improvements to some routes. Introduce Sunday service on some routes in Norfolk and Virginia Beach.	Changes to service: Routes 4, 9, 13, 18, 26, 29, 106, 109, 110	11,200 additional hours of service	No new vehicles needed to meet peak vehicle requirements
	FY 2029	Span and headway improvements to some routes. New Sunday service on some routes.	Changes to service: Routes 26, 29, 57, 103, 106	8,900 additional hours of service	No new vehicles needed to meet peak vehicle requirements
	Mid-Term Total			61,300 additional hours of service	1 new vehicle needed

Time Frame	Year	Key Service Improvements	Routes Impacted	Operational Needs	Capital Needs
Long-Term	FY 2030	Span and headway improvements to some routes.	Changes to service: Routes 6, 12, 103	4,000 additional hours of service	2 new vehicles needed to meet peak vehicle requirements
	FY 2031	New Sunday service and headway improvements on some routes.	Changes to service: Routes 14, 109	3,700 additional hours of service	2 new vehicles needed to meet peak vehicle requirements
	FY 2032	Span and headway improvements on some routes. New Sunday service on some routes.	Changes to service: Routes 6, 12, 33, 57, 109	7,000 additional hours of service	No new vehicles needed to meet peak vehicle requirements
	Long-Term Total			14,700 additional hours of service in long-term phase	4 new vehicles needed in long-term phase
Out-Years		Span and headway improvements to some routes to align with the service design guidelines—changes which could not be afforded within the ten years of the plan.	Changes to service: Routes 6, 12, 13, 14, 24, 33, 57, 58, 109, 111	26,000 additional hours of service in out-years	2 new vehicles needed to meet peak vehicle requirements

Table 3-3: Results of Transfer Facility Analysis

Transfer Facility	Bus Bays or Equivalent	Hourly Capacity (minutes)	FY 2032 Maximum Hourly Arrivals	FY 2032 Maximum Hourly Use (minutes)	FY 2032 Minimum Spare Hourly Capacity (minutes)
Downtown Norfolk Transit Center	16	960	38	597	363
Newport News Transit Center	10	600	45	511	89
Hampton Transit Center	10	600	23	235	365
Wards Corner Transfer Center	8	480	20	91	389
Victory Crossing Transfer Center	5	300	13	122	178
Evelyn T. Butts Transfer Center	4	240	35	264	-24
Robert Hall Boulevard	4	240	12	149	91
Military Circle Mall	3	180	21	96	84
Summit Pointe (Executive Boulevard & Eden Way)	1	60	6	56	4

3.3.2 Connection to Other Plans

The TSP was developed in close coordination with HRT's Capital Improvement Plan (CIP). The CIP includes the expansion in bus, paratransit, and non-revenue vehicles necessary to support the TSP's service recommendations. HRT plans to apply for funding in January 2022 for 12 new buses and for another 12 new buses in FY 2023 corresponding respectively to Group B and Group C of RTS implementation (for more information see **Chapter 6**). These buses are in addition to the 24 buses that were already allocated funding in the first half of FY 2022. The CIP programs bus grant requests based on when vehicles are needed to support implementation of the RTS network; on average there is a two-year lag in procurement time.

The CIP allocates funds for 26 non-revenue vehicles in January 2022 to meet the needs associated with the implementation of the TSP's ten-year plan. In addition to these vehicle investments, the CIP allocates funding for the relocation and reconstruction of HRT's Parks Avenue garage in Virginia Beach to accommodate the service expansion outlined in the TSP's ten-year plan. HRT has already secured funding for land, design, and engineering. Additional funds for the project are programmed in FY 2023, FY 2024, FY 2025, and FY 2026 to fully fund construction. Replacement of the current garage with a new facility will give the agency additional bus operating capacity and improve the efficiency of existing Virginia Beach operations by reducing the need to deadhead to the agency's Norfolk garage.

In accordance with the planned service and to enhance the experience of riders, the CIP also allocates funding for the replacement and/or renovation of the Robert Hall Transfer Center (funds programmed in FY 2024); the Evelyn T. Butts Transfer Center (funds programmed in FY 2024); and Net Center/Orcutt Transfer Center (funds programmed for FY 2023); as well as the installation of new shelters, benches, trash cans, and lighting at several hundred bus stops across the system (funds programmed in FY 2022 and FY 2024 through FY 2027). Finally, the CIP allocates funding for the maintenance of a range of passenger-facing and back-end technology investments that HRT is in the process of implementing with funds allocated in FY 2021 and FY 2022.

Implementation of any recommendation related to expansion of HRT service is predicated on the system sustaining a state of good repair. The agency's CIP is largely focused on maintaining or replacing existing assets at the end of their useful life, including vehicles, buildings, equipment, and technology. Ongoing investments in technology infrastructure such as the replacement of servers, improvements in network security, and increases in fiber optic bandwidth will be important for future technology improvements.

3.4 Service Development

3.4.1 Operations Planning

Table 3-4 details the operational changes and needs by year and by route for implementing the service changes described in **Table 3-2** and in the route profiles. Changes to revenue hours by year by route are displayed and represent a change in hours from that route in the previous year. Additional peak vehicles needed by route are also included in this table.

Service changes are planned to take effect in the fall of each fiscal year, approximately four months after the start of the fiscal year. Since the implementation of service changes does not align with the fiscal calendar, the estimated revenue hours for each route are prorated in the year of implementation such that the first four months account for the current service, while the next eight months account for the updates to the route. In **Table 3-4**, the approximate change in revenue hours for each service change represents the first eight months of increased or decreased operational needs. The gray shaded row in each year accounts for the difference between the eight months of service for any new or changed route operated in the prior year and the full twelve months of service it will regularly offer.

Table 3-4: Service Expansion and Reduction by Year

Year	Route	Description of Changes	Approximate Change in Revenue Hours	Additional Peak Vehicle Need
FY 2023	Route 14	Weekday and Saturday span increases	200	-
	Route 20	Alignment change	800	-
	Route 33	Alignment change	1,800	-
	Route 34 (Summer)	New VB Wave route	1,200	-
	Route 34 (Off-Season)	New VB Wave route	3,100	-
	Route 44	Weekday span increase, alignment extended on Sundays	700	-
	Route 101	Weekday and Sunday span increases, headway improvements on weekdays and weekends	3,400	1
	Route 106	Weekday and Sunday span increases	2,200	-
	Route 107	Weekday and Sunday span increases	2,000	-
	Route 108	Weekday and Sunday span increases	(2,200)	-
	Route 111	Alignment change	1,000	-
	Route 112	Weekday and Sunday span increases, headway improvements on weekdays and weekends	15,900	7
	Route 114	Weekday and weekend span increases, headway improvements on weekdays and weekends	14,800	4
	Route 115	Alignment change, weekday and Saturday span increases, weekday headway improvements	4,500	1
	Route 117	Eliminated	(1,600)	-
	Route 120	Eliminated	(2,300)	(1)
	Route 403	One trip added	200	1
	Route 405	Two trips added	300	1
	Route 415	One trip added	100	-
	Route 430	Two trips added	300	-
	Route 919	One trip removed	(100)	(1)
	Route 922	Two trips removed	(300)	(1)
	Route 960	Alignment change	No change ²³	-
	Route 966	Two trips added	300	1
Route 970	New route	1,200	4	
Route 972	Two trips added	300	1	
Other Routes	Schedule adjustments	(4,000)	-	
FY 2024	Route 1	Alignment change, Sunday span increase, headway improvements on weekdays and weekends	(5,500)	(4)

²³ This alignment change will not affect the route's cycle time, so there is no associated change in revenue hours.

Year	Route	Description of Changes	Approximate Change in Revenue Hours	Additional Peak Vehicle Need
FY 2024	Route 6	Weekday and Sunday span increases, weekday and weekend headway improvements	2,200	-
	Route 8	Alignment change	11,600	3
	Route 13	Weekday span increase	1,100	-
	Route 15	Weekday and weekend span increases, weekday and weekend headway improvements	5,900	1
	Route 20	Weekend span increases, weekday and weekend headway improvements	21,200	-
	Route 22	Weekday and Saturday span increases, Sunday service introduced	1,600	-
	Route 25	Weekday and Saturday span increases, Sunday service introduced	2,000	-
	Route 27	Alignment change, weekday span increase, weekday and weekend headway improvements, Sunday service introduced	2,800	-
	Route 33	Weekday and Saturday span increases	1,700	-
	Route 36	Alignment change, weekday and weekend span increases, weekday and weekend headway improvements	16,400	5
	Route 41	Alignment change, weekday and Saturday span increases, weekday and weekend headway improvements, Sunday service introduced	2,500	1
	Route 43	Eliminated	(2,400)	(1)
	Route 44	Alignment change, Saturday span increase	(2,300)	(1)
	Route 45	Alignment change, weekday and Sunday span increases, Sunday headway improvements	11,500	4
	Route 47	Alignment change, weekday and weekend span increases, weekday and weekend headway improvements	6,000	-
	Route 50	Alignment change, weekend span increases	3,100	1
	Route 57	Alignment change	400	(2)
	Route 102	Eliminated	(2,800)	-
	Route 104	Alignment change, weekday span increase, weekend span change, weekday and weekend headway changes	(1,800)	-
	Route 105	Alignment change, weekday and Sunday span increases, weekday headway improvements	2,000	1
Route 106	Weekday headway improvements	4,500	3	
Route 107	Weekday headway improvements	3,000	2	
Route 108	Alignment extension on weekends	2,000	-	
Route 109	Alignment change, weekday span increase	4,500	1	
Route 110	Alignment change, weekday span increase	(200)	2	

Year	Route	Description of Changes	Approximate Change in Revenue Hours	Additional Peak Vehicle Need
FY 2024	Route 111	Alignment change, weekday and Sunday span increases	1,500	-
	Route 115	Weekday and weekend headway improvements	6,600	1
	Route 118	Eliminated	(7,300)	(2)
	Route 960	Weekday and weekend span increases	800	-
	Route 980	Two trips added	400	-
	Other Routes	Prorated hours from previous year's service changes	16,500	-
FY 2025	Route 2	Alignment change, weekday and weekend span increases, weekday and weekend headway improvements	9,500	4
	Route 3	Alignment change, Sunday span increase, weekday and Sunday headway improvements	2,600	-
	Route 5	Eliminated	(2,400)	-
	Route 6	Sunday span increase	1,600	-
	Route 8	Weekday and weekend span increases, weekday and Sunday headway improvements	22,300	6
	Route 12	Alignment change, weekday span increase	500	-
	Route 13	Sunday span increase, weekday and weekend headway improvements	2,400	-
	Route 14	Alignment change, weekday and Saturday span increases	400	-
	Route 21	Weekday and weekend span increases, weekday and Sunday headway improvements	6,300	5
	Route 23	Weekday and Sunday span increases, Sunday headway improvements	1,700	-
	Route 50	Weekday and Sunday span increases	2,300	-
	Route 105	Weekday headway improvements	2,000	-
	Route 106	Weekday headway improvements	4,700	-
	Route 110	Weekday and weekend span increases, weekday headway improvements	1,700	1
	Route 962	New route	8,700	2
Other Routes	Prorated hours from previous year's service changes	32,600	-	
FY 2026	Route 11	Weekday and weekend span increases	400	-
	Route 26	Alignment change, Saturday span increases	6,600	-
	Route 29	Alignment change	(3,700)	-
	Route 41	Weekday and weekend span increases	600	-
	Route 44	Sunday span increase	100	-
	Route 57	Weekday span increase	200	-
	Route 58	Weekday span increase	300	-
	Route 105	Weekend headway improvements	2,000	-

Year	Route	Description of Changes	Approximate Change in Revenue Hours	Additional Peak Vehicle Need
FY 2026	Route 110	Weekday headway improvements	2,100	-
	Route 975	New route	1,200	1
	Other Routes	Prorated hours from previous year's service changes	24,600	-
FY 2027	Route 12	Introduce Sunday service	700	-
	Route 26	Weekday span increase	4,300	-
	Route 29	Weekday span increase	(1,900)	-
	Route 44	Sunday span increase	200	-
	Route 57	Weekday span increase	600	-
	Route 105	Sunday span increase	900	-
	Route 115	Sunday span increase	300	-
Other Routes	Prorated hours from previous year's service changes	1,700	-	
FY 2028	Route 4	Weekday span increase, Sunday headway improvements	200	-
	Route 9	Weekday span increase, introduce Sunday service	2,500	-
	Route 13	Introduce Sunday service in Chesapeake	700	-
	Route 18	Weekday span increase, introduce Sunday service	400	-
	Route 26	Weekday span increase, introduce Sunday service	2,800	-
	Route 29	Introduce Sunday service	(400)	-
	Route 106	Saturday headway improvements	1,200	-
	Route 109	Weekend span increases	600	-
	Route 110	Weekday and weekend headway improvements	2,200	-
Other Routes	Prorated hours from previous year's service changes	1,000	-	
FY 2029	Route 26	Weekend span increases	1,800	-
	Route 29	Sunday span increase	(300)	-
	Route 57	Introduce Sunday service	700	-
	Route 103	Weekday span increase, Sunday headway improvements	1,700	-
	Route 106	Sunday headway improvements	1,700	-
	Other Routes	Prorated hours from previous year's service changes	3,300	-
FY 2030	Route 6	Weekday span increase	100	-
	Route 12	Weekday headway improvements	1,500	2
	Route 103	Sunday span increase	1,100	-
	Other Routes	Prorated hours from previous year's service changes	1,300	-
FY 2031	Route 14	Introduce Sunday service	700	-
	Route 109	Weekday headway improvements	2,000	2
	Other Routes	Prorated hours from previous year's service changes	1,000	-
FY 2032	Route 6	Weekday span increase	200	-

Year	Route	Description of Changes	Approximate Change in Revenue Hours	Additional Peak Vehicle Need
FY 2032	Route 12	Weekday headway improvements	2,000	-
	Route 33	Introduce Sunday service	1,300	-
	Route 57	Sunday span increase	100	-
	Route 109	Weekday headway improvements	3,000	-
	Other Routes	Prorated hours from previous year's service changes	400	-

3.4.2 Equity Evaluation

This high-level equity evaluation illustrates where service reductions may impact minority and low-income communities. This equity evaluation is NOT a Title VI Service Equity Analysis but rather a high-level “gut-check” of whether and how the plan might impact these communities. Additionally, this analysis was conducted on the full implementation of the plan in FY 2032 and does not address any interim impacts at other points during plan implementation. For this analysis, reduced service refers both to geographic losses in service due to the elimination or realignment of routes or to a reduction in level of service (hours of service provided). Most areas in the region retain service coverage either by other realigned routes, by new fixed-route or on-demand service, or have improved levels of service on nearby routes, or a combination of these.

Methodology

The following steps were undertaken to complete a high-level equity evaluation that shows which Census Tracts with high percentages of low-income and/or minority residents may be impacted by service reductions.

Step 1: Determine the geographic areas losing transit service

Segments losing service either through route elimination or realignment were identified. This analysis was performed systemwide and not on a route-by-route basis; for example, if an existing²⁴ route segment was replaced by service on another route, there would be no impact to geographic coverage. A buffer of one-quarter mile was used around eliminated segments to demonstrate the approximate area losing service by FY 2032. In instances where this buffer overlapped with a one-quarter mile buffer around service that will exist in FY 2032, the overlapping area was removed (i.e., considered to still have service coverage).

Step 2: Determine which routes' changes in levels of service count as a “Major Service Change”

Routes which are estimated to have their revenue hours reduced by 20 percent or more by FY 2032 (compared to existing service) as well as routes that will be eliminated by FY 2032 were identified as qualifying as a Major Service Change for the purpose of this analysis.²⁵ A one-quarter mile buffer was used around these existing routes to demonstrate the approximate areas with service reduction.

Step 3: Overlay low-income and/or minority Census Tracts over the service changes

HRT's Title VI Program defines a minority Census Tract as one that had a minority population greater than the regional average of 44.7 percent and a low-income Census Tract as one with more than 19.3 percent at or below the federal poverty line.²⁶ To determine which of the Minority and Low-Income Census Tracts may be impacted by the planned reductions in service, the Census Tracts that meet those thresholds were overlaid over the geographic areas losing service and routes undergoing Major Service Changes.

²⁴ For the purpose of the high-level equity analysis, existing service is FY 2022.

²⁵ Hampton Roads Transit, “Title VI Program 2020-2023,” Accessed at <https://gohrt.com/wp-content/uploads/2020/09/HRT-Title-VI-Program-Plan-2020-to-2023.pdf>. The threshold of 20 percent was chosen for this analysis based on the methodology in HRT's Title VI Program for determining a “Major Service Change” which states a 25 percent threshold. For this high-level analysis, 20 percent was chosen so that this analysis would err on the side of including more service changes rather than less. This equity evaluation is NOT a Title VI Service Equity Analysis.

²⁶ Ibid. These minority and low-income thresholds were chosen based on HRT's Title VI Program. This equity evaluation is NOT a Title VI Service Equity Analysis.

Findings

Figure 3-5 and **Figure 3-6** show the geographic loss of coverage overlaid with the Minority and Low-Income Census Tracts. **Figure 3-7** and **Figure 3-8** show routes with reductions in hours of service of greater than 20 percent and eliminated routes overlaid with the Minority and Low-Income Census Tracts. **Table 3-5** details the Minority and Low-Income Census Tracts that intersect with buffers of reductions in service by route. Details on the specific changes for each route are included in the route profiles in **Section 3.1**.

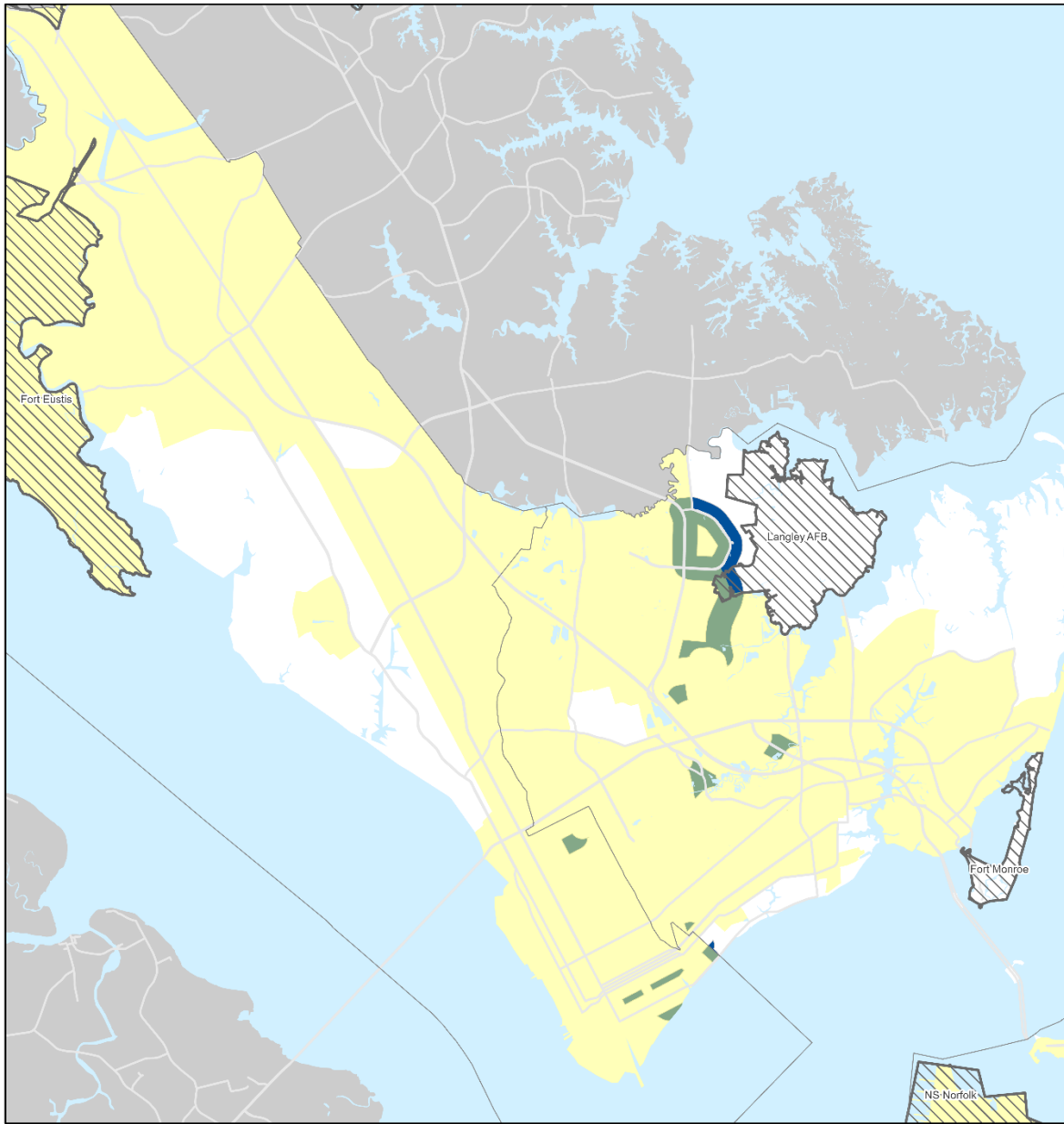
On the geographic loss of service maps (**Figure 3-5** and **Figure 3-6**), the reductions in service are shown in blue and the Minority and Low-Income Census Tracts are shown in transparent yellow overlaid on the blue. Wherever the transparent yellow and dark blue intersect, the subsequent green color represents a Minority or Low-Income Census Tract that may be impacted by the loss of geographic coverage (the Census Tracts are identified in **Table 3-5: Equity Analysis Results**). If there is no yellow overlapping a blue area, then that area is not in a Minority and/or Low-Income Tract.

On the reductions in level of service maps (**Figure 3-7** and **Figure 3-8**), the transparent yellow layer again symbolizes the Minority and Low-Income Census Tracts; routes planned for a reduction in level of service are shown in purple and eliminated routes are highlighted in orange to demonstrate that the level of service along those corridors may be reduced. Wherever the transparent yellow intersects with the purple or orange, this represents a Minority or Low-Income Census Tract that may be impacted by a reduction in level of service (the Census Tracts are identified in **Table 3-5**). Many of the Census Tracts intersecting with the eliminated routes will still receive coverage from other realigned routes, which are not considered in this analysis (this was deliberately done for the purpose of this analysis in order to identify a wider range of potential impacts). In some instances, eliminated routes will result in segments losing geographic coverage; these segments are visible in **Figure 3-5** and **Figure 3-6**, including segments from the eliminated Route 118.

The ten-year phased plan includes 16 routes with a geographic and/or level of service reduction by FY 2032:

- Six routes will be eliminated: Route 5, Route 43, Route 102, Route 117, Route 118, and Route 120. However, most segments of service on these routes will be covered by service on other realigned or extended fixed routes.
 - Route 5’s service area is fully covered by other realigned routes; however, existing one-seat trips on these routes will now require at least one transfer, which may potentially impact Minority and Low-Income Census Tracts.
 - Route 43’s service area will be mostly covered by the realigned Route 50; the geographic coverage analysis shows service still available within ¼ mile, but there are stops being removed in Minority and Low-Income Census Tracts. Route 44 and Route 47 also provide nearby coverage and replacement coverage.
 - Two routes (Route 102 and 118) have segments that will lose geographic coverage due to elimination, potentially impacting four Minority and Low-Income Census Tracts along each route. The City of Hampton is currently exploring demand responsive service to serve some of these areas.
 - Route 117 and Route 120 service will be eliminated and mostly covered by the realigned Route 115. A few stops that will no longer be served by these routes are within the ¼ mile buffer around the realigned Route 115, but the stops being eliminated may impact Minority and Low-Income Census Tracts.
- Eight routes lose segments of geographic coverage due to realignment but do not undergo reductions in level of service. Each of these alignment changes impact anywhere from one to three Minority and Low-Income Census Tracts per route.
- Two routes, in addition to the eliminated Routes 102 and 118, undergo both a reduction in level of service and a loss of geographic coverage: Route 1 and Route 104. Route 1 is projected to have a reduction in level of service of 23 percent due it being shortened significantly. However, much of its existing service area will be covered by other realigned routes such as Route 8 and Route 36 and the existing Route 22. Route 104 is projected to have a reduction in level of service of 26 percent due to a realignment and service reductions. However, most of the segments being taken off Route 104 are covered by other realigned routes and there will also be nearby access within a quarter-mile walking distance to routes with equivalent or higher frequency.

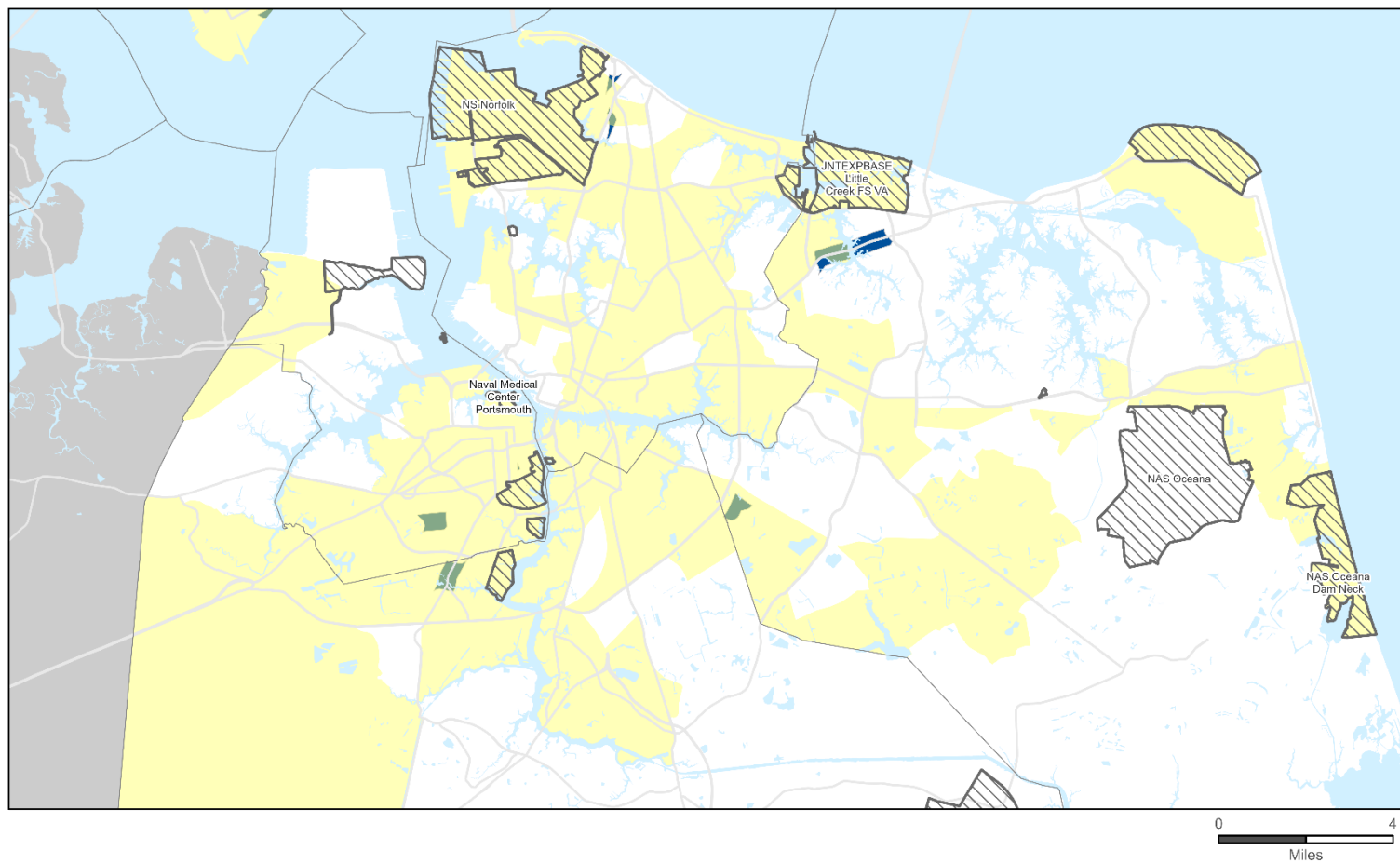
Figure 3-5: Peninsula Geographic Loss of Service



- Minority and Low-Income Tracts
- Geographic Loss - Overlapping with Minority and Low-Income Tracts
- Geographic Loss - Not Overlapping with Minority and Low-Income Tracts
- Military Base
- City Boundary



Figure 3-6: Southside Geographic Loss of Service

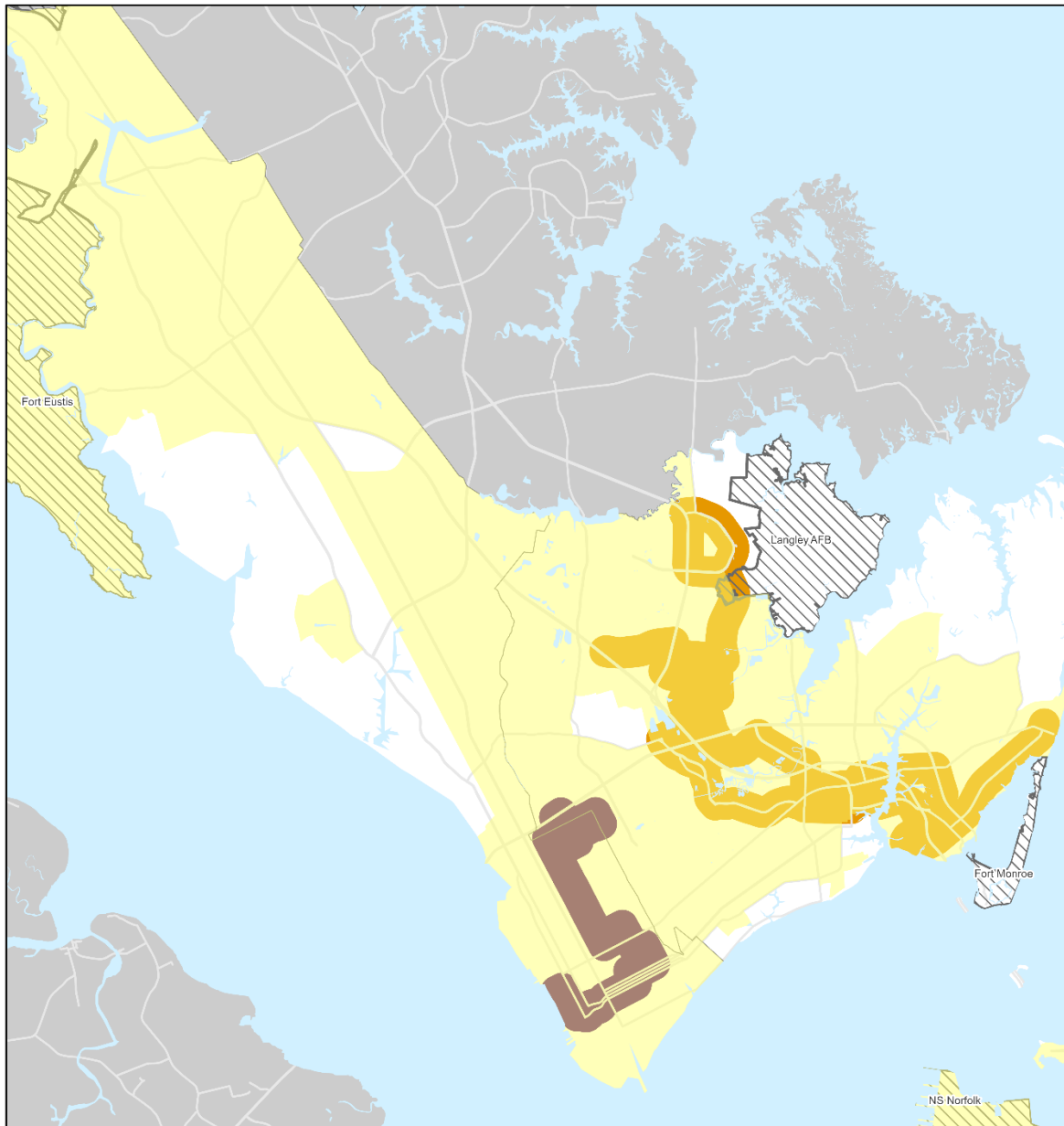


- Minority and Low-Income Tracts
- Geographic Loss - Overlapping with Minority and Low-Income Tracts
- Geographic Loss - Not overlapping with Minority and Low-Income Tracts

- Military Base
- City Boundary



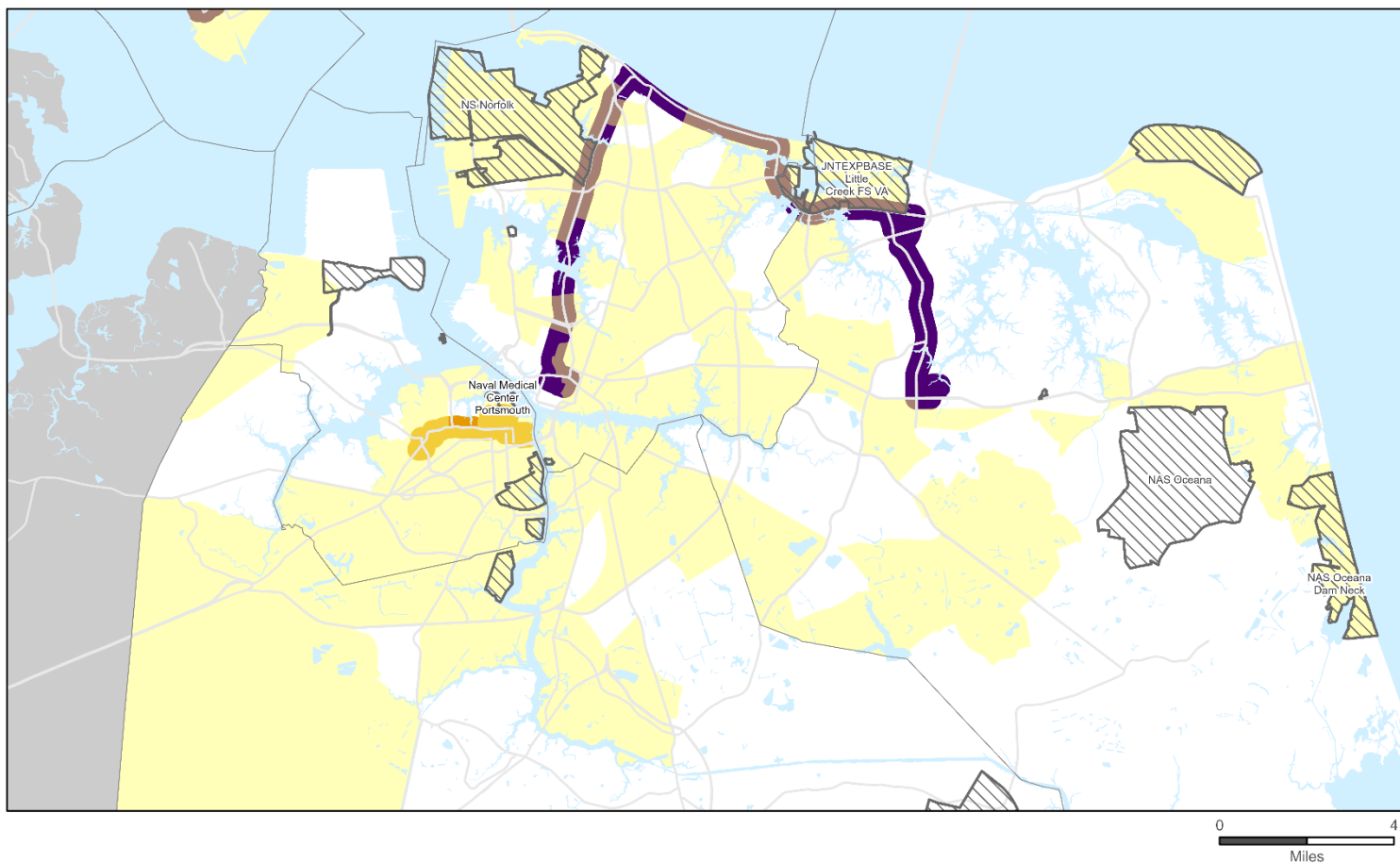
Figure 3-7: Peninsula Level of Service Loss



- Minority and Low-Income Tracts
- Reduced Level of Service Buffer - Overlapping with Minority and Low-Income Tracts
- Eliminated Route Buffer - Overlapping with Minority and Low-Income Tracts
- Eliminated Route Buffer - Not Overlapping with Minority and Low-Income Tracts
- Military Base
- City Boundary



Figure 3-8: Southside Level of Service Loss



- Minority and Low-Income Tracts
- Reduced Level of Service Buffer - Overlapping with Minority and Low-Income Tracts
- Reduced Level of Service Buffer - Not Overlapping with Minority and Low-Income Tracts
- Eliminated Route Buffer - Overlapping with Minority and Low-Income Tracts
- Eliminated Route Buffer - Not Overlapping with Minority and Low-Income Tracts
- Military Base
- City Boundary



In **Table 3-5**, the Minority and Low-Income Census Tracts that may be impacted by either a loss of geographic coverage and/or reduced level of service are listed for each route. Census Tracts that may be impacted by these changes but that do not fall under the Minority and Low-Income Census Tract designation are not listed in this table.

Table 3-5: Equity Analysis Results

Route	Loss of Geographic Coverage	Minority or Low-Income Census Tracts Impacted by Loss of Geographic Coverage	Reduced Level of Service	Minority or Low-Income Census Tracts Impacted by Reduced Level of Service
1	Yes	Tracts 5, 6, 8, 55	Yes	Tracts 1, 5, 6, 8, 9.02, 13, 14, 15, 17, 29, 35.01, 41, 42, 48, 55, 57.01, 65.01, 65.02, 66.04, 66.05, 400, 402, 404.03, 410.02
2	No	-	No	-
3	Yes	Tracts 5	No	-
4	No	-	No	-
5	No	-	<i>Eliminated</i>	Tracts 4, 5, 6, 8, 9.02, 55, 56.01, 56.02, 57.01, 58
6	Yes	Tract 50	No	-
9	No	-	No	-
11	No	-	No	-
12	Yes	Tracts 208.09, 462.20	No	-
13	No	-	No	-
14	No	-	No	-
15	No	-	No	-
18	No	-	No	-
20	No	-	No	-
21	No	-	No	-
22	No	-	No	-
23	No	-	No	-
25	No	-	No	-
27	Yes	Tract 404.03	No	-
29	No	-	No	-
33	No	-	No	-
41	Yes	Tract 2121	No	-
43	No	-	<i>Eliminated</i>	Tracts 50, 2105, 2109, 2111, 2114, 2115, , 2121,2132
44	No	-	No	-
45	No	-	No	-
47	No	-	No	-
50	Yes	Tracts 2125, 2126	No	-
57	Yes	Tracts 214.03, 214.04	No	-
58	No	-	No	-
101	No	-	No	-
102	Yes	Tracts 103.13, 104, 105.01, 105.02	<i>Eliminated</i>	Tracts 103.11, 103.13, 103.14, 104, 105.01, 105.02, 106.01, 106.02, 116

Route	Loss of Geographic Coverage	Minority or Low-Income Census Tracts Impacted by Loss of Geographic Coverage	Reduced Level of Service	Minority or Low-Income Census Tracts Impacted by Reduced Level of Service
103	No	-	No	-
104	Yes	Tract 313	Yes	Tracts 103.09, 103.10, 104, 105.01, 301, 303, 304, 305, 306, 308, 309, 311, 312, 313
105	Yes	Tracts 120, 303, 304	No	-
106	No	-	No	-
107	No	-	No	-
108	No	-	No	-
109	No	-	No	-
110	No	-	No	-
111	No	-	No	-
112	No	-	No	-
114	No	-	No	-
115	No	-	No	-
117	No	-	<i>Eliminated</i>	Tracts 106.01, 108, 109, 113, 114
118	Yes	Tracts 103.04, 103.06, 103.14, 105.02	<i>Eliminated</i>	Tracts 103.04, 103.06, 103.11, 103.13, 103.14, 105.02, 106.01, 106.02, 108, 116, 118
120	No	-	<i>Eliminated</i>	Tracts 106.01, 108, 109, 110, 112, 113, 114

Regarding the Limited/Express service, while Routes 919 and 922 have planned reductions in levels of service, HRT’s Title VI Program considers a “Major Service Change” on Limited/Express service to be a reduction of 50 percent of route miles or hours,²⁷ and the planned reductions in level of service on Routes 919 and 922 are well below the 50 percent threshold (Routes 919 and 922 are projected to have reductions in level of service of six and 22 percent, respectively). Therefore, none of the planned changes to Limited/Express service qualify for further analysis under the methodology for the high-level equity evaluation.

3.4.3 Paratransit Service Area Evaluation

The high-level paratransit service area evaluation illustrates where the service plan for FY 2032 would result in gains and losses of geographic coverage, potentially impacting the provision of paratransit. This is a high-level “gut-check” and not a full analysis of the paratransit service area. This high-level evaluation examines only local fixed-route service (Regional Backbone, Local Priority, and Coverage route classifications) as well as three Limited/Express routes which provide all-day headway-based service—Route 960, Route 961, and Route 962.

Methodology

The following steps were undertaken to complete the high-level paratransit service area analysis.

Step 1: Determine the geographic areas losing transit service

Segments losing service either through route elimination or realignment were identified. This analysis was performed systemwide and not on a route-by-route basis; for example, if an existing route segment was replaced by service on another route, there would be no impact to geographic coverage. The geographic areas losing transit service are the same geographic areas losing transit service in the high-level equity analysis presented in **Section**

²⁷ Hampton Roads Transit, “Title VI Program 2020-2023,” Accessed at <https://gohrt.com/wp-content/uploads/2020/09/HRT-Title-VI-Program-Plan-2020-to-2023.pdf>. This equity evaluation is NOT a Title VI Service Equity Analysis.

3.4.2 (note that the high-level equity analysis maps and the paratransit service analysis maps will not match due to differences in the methodology which occur in later steps of each process).

Step 2: Determine the geographic areas gaining transit service

Segments gaining service through route realignment were identified. This analysis was also performed systemwide and not on a route-by-route basis. Only segments that serve completely new geographic areas are included as areas gaining transit service.

Step 3: Create buffer around new and eliminated areas

A three-quarter mile buffer was drawn around the new and eliminated geographic areas from Steps 1 and 2 to demonstrate the approximate paratransit service area impacted by these changes.²⁸

Step 4: Create buffer around existing and planned system

A three-quarter mile buffer was drawn around the existing system and the planned system. Areas were removed from the Step 3 “loss” buffer which overlap with the three-quarter mile buffer around the planned system, as those areas will continue to be within the paratransit service area. Areas were removed from the Step 3 “gain” buffer which overlap with the three-quarter mile buffer around the existing system, as those areas already were within the paratransit service area.

Step 5: Determine resulting areas

Find the square mileage of the resulting geographic areas from Step 4, representing the square mileage of area being added to the paratransit service area and being taken away from it.

Findings

Figure 3-9 and **Figure 3-10** display the areas where the paratransit service area would be reduced and expanded by FY 2032 on the Peninsula and Southside, respectively. These maps illustrate the changes in the paratransit service area; they do not show the full extent of the area served by paratransit. On the maps, the blue areas represent geographic losses in the paratransit service area and the purple areas show geographic gains in the paratransit service area.

The proposed realignments and eliminations do not lead to significant changes in the paratransit service area; in general, eliminated and realigned routes were covered by the realignments of other routes. The analysis shows that the paratransit service area could be reduced by approximately 4.9 square miles due to geographic losses in fixed route service. On the Southside it is 0.9 square miles and on the Peninsula it is 4.0 square miles. Approximately one square mile of the calculated geographic losses in the paratransit service area are within military bases, where paratransit service may not actually be operating currently. On the Peninsula, the loss in the service area is driven by the elimination of Route 118. On the Southside, the geographic losses are driven by the realignments of Route 3, Route 12, Route 27, and Route 57.

Approximately 5.0 square miles are calculated to be added to the paratransit service area due to geographic gains in coverage in the planned system. All the geographic gains in the paratransit service area would occur on the Southside, and none of the geographic gains in the paratransit service area are within a military base. These gains in service area, which represent only a small percentage of the total paratransit service area, are driven by the extension of Route 45 into Suffolk and the realignments of Route 15, Route 27, and Route 57.

As a result of this plan, HRT’s paratransit service area may undergo minimal changes. In accordance with the guidance from the ADA, the new areas on the Southside now within three quarter miles of fixed route transit service would become eligible for paratransit service. The areas on the Peninsula and Southside losing geographic coverage could continue to be included within the paratransit service area to ensure customers currently using the service will not lose access. Because the paratransit service area losses represent only a small

²⁸ The three-quarter mile buffer was selected based on the Americans With Disabilities Act of 1990 (ADA), which stipulates that an agency’s paratransit service area be “a corridor surrounding the routes ¾ of a mile on either side, or for rail, a series of circles of radius ¾ mile centered on each station.” The three-quarter mile buffer is also consistent with HRT’s existing paratransit policy. HRT’s existing paratransit service area does not include commuter routes that only operate in one direction during peak periods; as such, the only Limited/Express routes included in the paratransit service area are Routes 960 and 961.

percentage of the total paratransit service area, the cost to continue to operate paratransit in these geographies is expected to be modest.

Figure 3-9: Peninsula Paratransit Service Area Gains and Losses

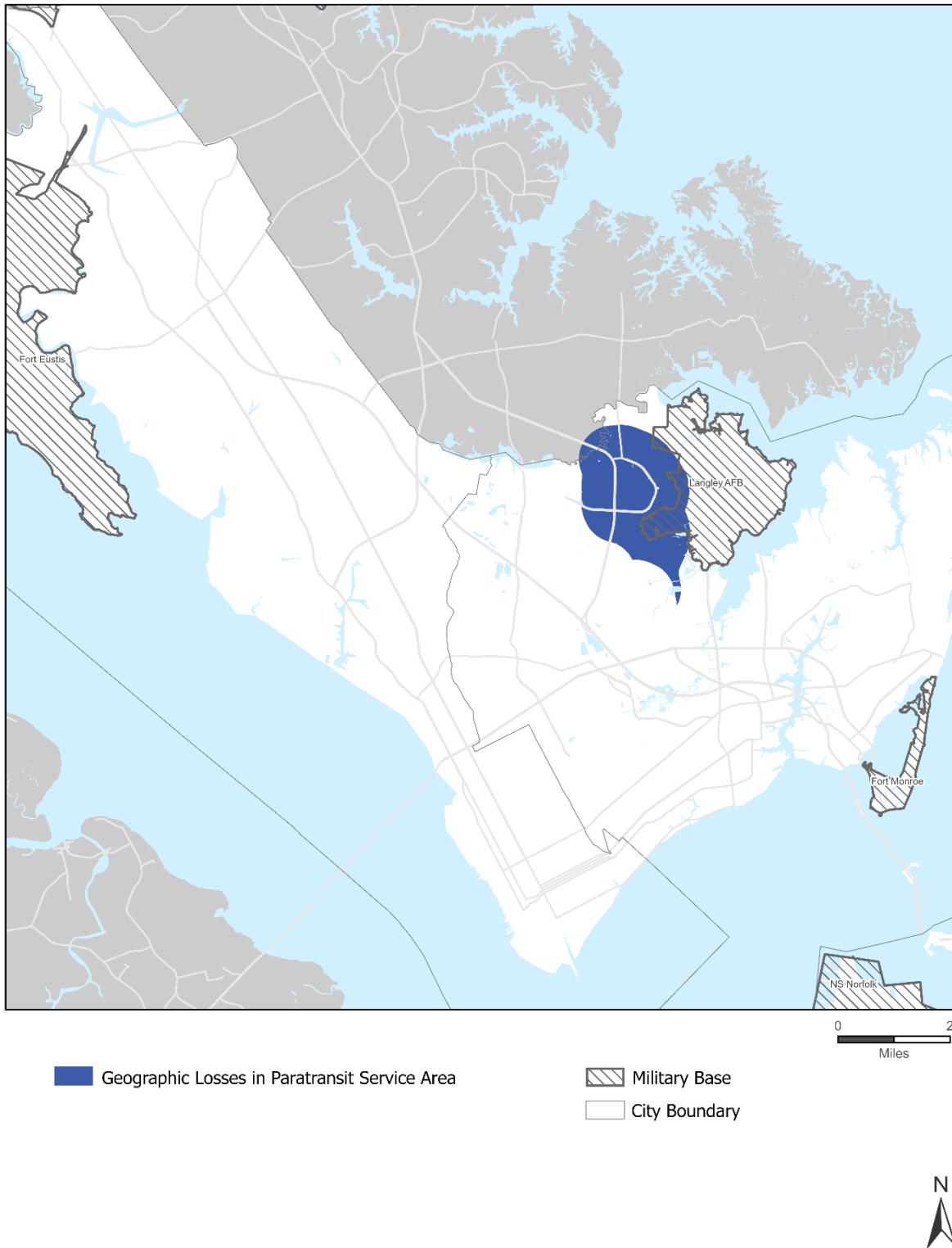
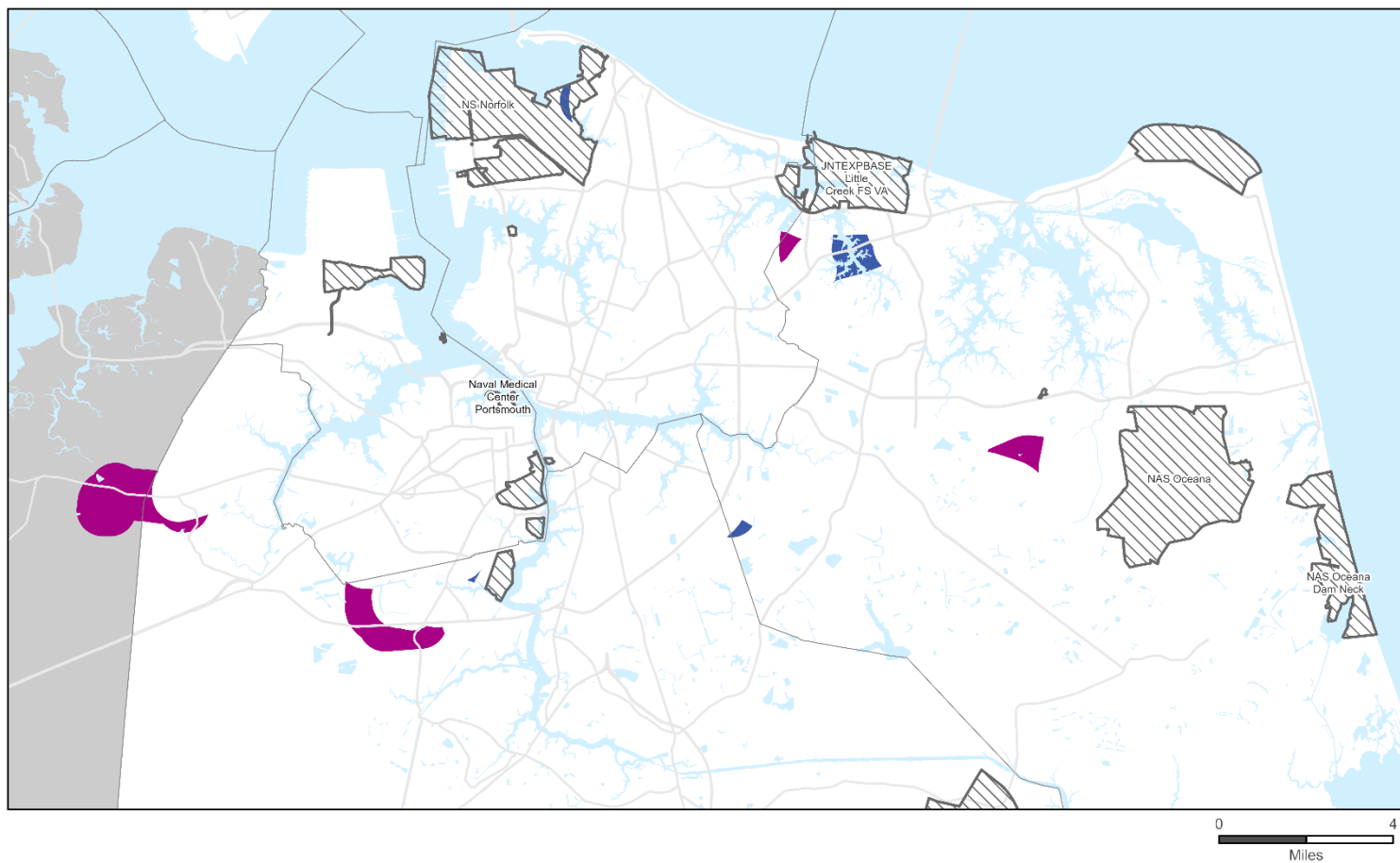


Figure 3-10: Southside Paratransit Service Area Gains and Losses



- Geographic Gains in Paratransit Service Area
- Geographic Losses in Paratransit Service Area
- Military Base
- City Boundary



3.4.4 Title VI Program Review

FTA has found no issues in its most recent reviews of HRT that would require implementation of service changes to correct any deficiencies identified. HRT has updated its Title VI Program for the 2020-2023 program period (accepted by FTA in November 2020 with a status of Concur); this update should not impact how service changes are considered during the program period. The next Title VI program update covering the program period of 2023-2026 will be submitted to FTA by February 1, 2023.

3.4.5 Factors Impacting Service Development

A number of different factors could impact the ability to implement the services planned through this project. These factors have been divided into three groupings: 1) factors that address additional, current, or anticipated policy, planning, funding, or operating issues that may affect the operations of the existing or planned transit system; 2) other planning or development projects that are either ongoing or upcoming; and 3) where further study is needed and funding or capital needs are necessary for TSP implementation.

Policy, Planning, Funding, and Operating Issues

The policy, planning, funding, and operating issues that should be considered with the implementation of any of the recommendations include:

- **Funding for Regional Backbone Services:** The 2020 Virginia General Assembly passed legislation requiring establishment of the Hampton Roads Regional Transit Program (the Program) to define and supply resources for the development, operating, and capital needs for both expansion and state of good repair of reliable regional transit operations. Pursuant to the legislation, the Program is for a core regional network of transit routes and related infrastructure, rolling stock, passenger amenities, technology upgrades, and support facilities. The express goal of the Program is to provide a modern, safe, and efficient core network of transit services across the Hampton Roads region. In addition to authorizing the Program, the new Code of Virginia Section § 33.2-2600.1 also established the Hampton Roads Regional Transit Fund which will provide capital and operating funding necessary to support HRT's high frequency Regional Backbone network of bus services. More information on the Hampton Roads Regional Transit Program can be found in **Chapter 6**.
- **New Service Design Standards:** Through the TSP process, HRT has developed and is implementing updated service categories (i.e., Limited/Express, Regional Backbone, Local Priority, Coverage, Demand-Responsive), each with its own service design standards. Each new service type has a standardized start and end time and a frequency minimum per daily service period (i.e., early morning, AM peak, midday, PM peak, evening, late night). These standards will help to create a network of transit service that is consistent across the region and will be in place by June 30, 2021.
- **ADA Paratransit Service Coverage:** With many of the routes recommended for alignment changes and nearly all HRT's routes being proposed for some sort of service level change, HRT's bus network footprint and the operational hours of service have been altered. This change will impact the HRT ADA paratransit coverage area, as well as the hours of operation for the complementary service. HRT will review and update its ADA paratransit policies to assess how changes to the system will impact currently certified paratransit customers.
- **HRT Fleet Replacement:** HRT is in the midst of a major fleet overhaul. The agency has a fleet replacement plan that it updates annually based on vehicle age, condition, procurement timetables, and available funding. Over the next decade, HRT plans to purchase 211 replacement buses and conduct mid-life repowers for an additional 149 buses (some in the existing fleet and some in the expansion fleet). The agency also plans to expand the fleet by 48 buses in the next ten years; this expansion will support the implementation of the Program's enhanced transit services.
- **Table 3-6** outlines HRT's planned fleet investment schedule. The table reflects the year vehicle investments will be funded, not delivered. Due to the lead time for vehicle procurement, HRT typically receives new buses about 24 months after initiating the investment. See **Chapter 4** for more information on bus procurement and asset management policies.

Table 3-6: FY 2022 - FY 2032 Fleet Replacement Schedule (by Year of Funding)

	FY 22*	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28	FY 29	FY 30	FY 31	FY 32	Total
Replace	-	31	14	6	5	21	26	14	10	15	19	161
Expansion	12	12	-	-	-	-	-	-	-	-	-	24
Repower (Existing Fleet)	-	27	-	14	25	19	20	8	47	42	9	211
Repower (Expansion Fleet)	-	-	-	-	-	-	-	-	33	3	-	36

*FY 2022 excludes vehicles allocated funding in the first half of the fiscal year

- **Operator hiring and training:** Hiring and training new operators to provide the added bus services for each year of the plan will be an ongoing necessity. This underscores the importance of ongoing recruitment, hiring, training, and retention. Hiring and retaining operators has been challenging during the COVID-19 pandemic. The number of applications for bus operator positions decreased by more than 50 percent during the pandemic from an average of 86 per month to 41 per month. Most applicants do not have a Commercial Driver’s License (CDL) or permit; applicants must have at least a CDL permit and pass a background check, drug test, and Department of Transportation physical in order to begin training. During the pandemic access to Department of Motor Vehicles and medical facilities for testing and physicals has been more limited, especially earlier on. The time it takes to onboard bus operator applicants is four to six weeks. Once hired, bus operator trainees are in training for nine weeks before graduating and ready for revenue service. Absences during the COVID-19 pandemic have risen to almost 25 percent of the total operators. Mandatory overtime requirements for bus operators were needed to cover service and this has resulted in an increase in turnover. See **Chapter 6** for more details about hiring and training in relation to the routes supported by the Hampton Roads Regional Transit Program.
- **Facilities:** HRT is working with the City of Norfolk to identify a new site for the Evelyn T. Butts transfer facility and with the City of Chesapeake for a new site for the Robert Hall transfer facility. These facilities, with their expanded room for more vehicles and added passenger amenities, are important for the implementation of the 757 Express program which will result in more buses service these crucial transfer points.
- **TRIP Grants:** HRT has applied for a TRIP grant²⁹ and has been notified that it will be funded (as of October 2021). The grant is to fund potential internal service on Naval Station Norfolk as an extension of Route 21, similar to a circulator-type of service. If the grant application is successful, Route 21 would be modified in a future TSP update for its western end to operate a service pattern on the base that connects to key destinations.

Planning and Development Project Considerations

The other planning or development projects that should be considered with the implementation of the TSP recommendations include:

- **City of Norfolk Multimodal Transportation Master Plan:** The City of Norfolk is currently developing a Multimodal Transportation Master Plan (Multimodal Norfolk) to help define the direction that the City’s transportation system will take over the coming years. This Plan will provide the framework for both large and small transportation decisions about projects, priorities, and coordinated planning with respect to land use decisions, public/private initiatives, other infrastructure projects, and more. Multimodal Norfolk will include a full redesign of the City’s public transportation system, namely the HRT routes in the City, that will evaluate and recommend important policy related to route structure and stop spacing. The City will examine innovative options to deliver transit service, including microtransit and other on-demand solutions that will best serve the needs of the City. HRT will utilize the recommendations forthcoming from this study in the next annual update of the Transit Strategic Plan upon approval of Norfolk’s plan by the Norfolk City Council.

²⁹ <http://www.drpt.virginia.gov/transit/trip-transit-ridership-incentive-program/>

- **Peninsula Corridor Study:** In 2016 and into 2017, the Peninsula Corridor Study defined potential high-capacity transit connections between existing and future activity centers in Hampton and Newport News.³⁰ The study identified two bus rapid transit (BRT) corridors—the Jefferson and Mercury corridors—as the most feasible and cost-effective alternatives, representing the Peninsula’s best opportunity to meet the high-capacity transit needs of the community and effectively compete for FTA funding. These corridors provide the best mobility and community benefits with the least impacts to the existing environment. The Peninsula BRT project will address a number of key opportunities including using transit to connect activity centers and decreasing transit travel times. HRT will evaluate and document the project’s effects on the natural, cultural, and human environment; potential property impacts; and transit-oriented development (TOD) opportunities. The Peninsula BRT Documented Categorical Exclusion (DCE) process is expected to conclude by Summer 2022. It will further define corridor alternatives and environmental documentation will be completed to prepare for future processes and application under the federal Capital Investment Grant Program. Subsequent to the completion of the DCE process, it will be the decision of both City Councils if they wish HRT to proceed with the next phase of project development under the federal Capital Investment Grant process.
- **Naval Station Norfolk Transit Corridor Project:** The Naval Station Norfolk Transit Corridor Project aims to establish high-capacity transit on the east side of the City of Norfolk between the existing Tide Light Rail system and Naval Station Norfolk. As of Fall 2021, two projects have been identified for advancement in a multi-phased expansion of the transit network in the Military Highway Corridor. Phase 1 is an extension of the world-class Tide light rail to the Military Circle redevelopment area. Phase 2 is the development of an innovative Bus Rapid Transit (BRT) to Naval Station Norfolk. Ongoing alternatives analysis and environmental documentation for various high-capacity transit modes to Naval Station Norfolk. As implementation nears for these recommendations, HRT will evaluate any necessary adjustments to bus service to provide connections as needed.
- **HRT Capital Improvement Plan:** The annual Capital Improvement Plan (CIP) that HRT develops includes planned capital improvements for the current fiscal year and nine subsequent years. The funding for bus replacement and expansion, as well as improvements and expansions to transit passenger and operating facilities—both of which are needed to accomplish the recommendations in the TSP—are included in the CIP and fully folds into the Hampton Roads Regional Transit funds and projects.

Additional Studies, Funding, and Capital Requirements

The additional studies and funding and capital requirements that should be considered with the implementation of the TSP recommendations include:

- **Further Study of the On-Demand Microtransit Services:** Additional information should be sought or planning studies performed to further define the on-demand microtransit services in terms of the type(s) of on-demand microtransit service(s) provided, the parameters of the service(s), and a program that will help implement the new service type, including the procurement of a service vendor. An RFP is currently out for a third-party contractor to operate “turnkey” on-demand service for pilot programs in Virginia Beach and Newport News. The pilot programs will be funded through a Virginia Department of Transportation “demonstration grant” of \$1.6 million plus matching local funds from both cities as required by the state grant. It is expected that the pilots would begin in Spring 2022. Additionally, HRT is currently working with the City of Hampton to explore microtransit options to identify demand responsive service to cover areas losing service due to the planned elimination of Route 118. An initial microtransit zone has been discussed with the City of Hampton in January 2021 and a subsequent presentation was made to the Hampton City Council. Additional information regarding the on-demand microtransit services can be found in **Appendix D: On-Demand Microtransit Services**.
- **Future Evaluation of Capital Investments to Enhance Regional Transit Operations:** Additional studies at a more granular level should be undertaken in the future to analyze additional positive impacts of regional transit. For example, transit signal priority and other capital investments that help to increase the speed of the Regional Backbone services should be further studied in terms of where to place such investments and the likely impact of each element.

³⁰ <https://www.peninsulabrt.com/>

- **Consideration of Alternative Fuels:** With the benefit of learning from the current Electric Bus Pilot Project, additional studies should be conducted to determine how alternative fuel vehicles and transit infrastructure could be part of HRT’s long-term, sustainable future.
- **Marketing and Public Education:** Despite the best efforts of transit agencies, many times current transit passengers and potential riders are unaware of upcoming planned service changes until these changes actually happen. To overcome this and promote ridership and overall success when implementing TSP recommendations, HRT will implement a comprehensive and integrated multi-media communications plan. As part of this, promotional campaigns and outreach teams will engage businesses and target markets in communities across Hampton Roads to promote utilization of the enhanced regional transit system. HRT will use both contracted and in-house services to complete its communications and marketing tasks.
- **Transit Equity Studies:** During the 2021 General Assembly Special Session in 2021, HJ 542 was passed and required the Department of Rail and Public Transportation (VDRPT) to conduct a “Transit Equity and Modernization Study” that aims to study transit equity and modernization across the Commonwealth. After the passing of HJ 542, VDRPT initiated this two-year study to conduct a needs assessment on topics such as transit, accessibility, technology, electrification, safety, engagement, representation, and infrastructure. The study will also have a specific focus on service and engagement opportunities for underserved and underrepresented communities. HRT will also conduct its own Transit Equity study to create an assessment of current conditions, identify opportunities, and develop an action plan to advance the equitable delivery and modernization of transit services in the Hampton Roads Service district.
- **Portsmouth Park & Sail:** The City of Portsmouth has been awarded a Smart Scale grant from the Commonwealth to fund a new multimodal transit station at the Park & Sail site. There will be eight bus bays, new shelters, 74 improved commuter parking spaces, bicycle racks, and drop-off/pick-up for taxi & rideshare. Delivery is expected no earlier than 2028. Once the facility is ready, HRT and the City of Portsmouth will coordinate to realign routes to serve this facility as the main downtown transfer hub.

CHAPTER 4

Implementation Plan

FY2023 – FY2032



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Contents

4. Implementation Plan	4-1
4.1. <i>Asset Management</i>	4-1
4.1.1. Fleet Policies	4-1
4.1.2. Facilities.....	4-2
4.1.3. Non-Facility Assets Policies	4-3
4.1.4. Technology and ITS Policies (Verify with Technology)	4-4
4.2. <i>Capital Implementation Plan</i>	4-4
4.2.1. Background	4-4
4.2.2. Revenue Fleet.....	4-4
4.2.3. Non-Revenue Fleet.....	4-5
4.2.4. Operations and Maintenance Facilities.....	4-5
4.2.5. Passenger Facilities, Infrastructure, and Amenities	4-6
4.2.6. Technology and ITS	4-7
4.2.7. Light Rail Infrastructure.....	4-8

Tables

Table 4-1: Useful Life by Asset Type	4-2
Table 4-2: Number of Planned Replacement, Expansion and Repowers by Year	4-5
Table 4-3: Paratransit Replacement Schedule.....	4-5
Table 4-4: Non-Revenue Fleet Replacement Needs	4-5

Figures

Figure 4-1: Average Bus Age	4-4
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4. Implementation Plan

4.1. Asset Management

HRT is a Tier 1 agency in the Commonwealth and has developed its own Transit Asset Management (TAM) Plan. Adopted in August 2018, it is based on HRT's asset inventory and condition assessments through May 2018. The TAM Plan's overarching purpose is to guide HRT in maintaining its assets in a state of good repair as well as developing a timeline and process for replacing those assets that are past their useful lifespans. The elements of the TAM plan are established by the Federal Transit Administration and must include an asset inventory, a condition assessment of each of those assets, an analytic decision process or tool to prioritize and estimate capital needs, transit asset management and state of good repair policies, an implementation plan, a list of activities that occur in each year of the plan's horizon timeline, a list of resources required to carry out the TAM plan, and a description of how the TAM plan will be monitored and updated over time.¹ HRT's TAM plan will be reviewed and updated at least every four years to ensure that the asset inventory is accurate and that an attainable asset replacement schedule is being implemented. In addition to the TAM plan, HRT maintains specific state of good repair plans for different classes of assets, such as light rail, facilities, and fleet. The TAM plan development is coordinated with these asset specific plans.

According to the 2018 TAM Plan, HRT has over 5,600 individual assets valued at approximately \$800 million. An asset is defined as being a revenue vehicle; a non-revenue vehicle or a support vehicle worth \$50,000 in acquisition value; a facility or facility component, including integral facility equipment worth more than \$10,000; or bus, light rail, and/or ferry passenger amenities.

HRT is currently updating its TAM Plan, with a new plan to be published in August 2022. At the time of writing (fall 2021), inputs from the TAM Plan update were not available. Next year's TSP update will incorporate information from the updated TAM Plan.

HRT is in the process of implementing a new agency-wide Enterprise Asset Management (EAM) system (Trapeze EAM). The EAM system will go live in early 2022.

4.1.1. Fleet Policies

HRT's revenue fleet includes buses, light rail vehicles, ferries, and paratransit vehicles. HRT uses the Transit Economic Requirements Model (TERM) to assess the condition of non-facility assets such as revenue fleet vehicles. Through this process, each asset is assigned a numerical value from five (representing an asset in excellent or near new condition) to one (representing an asset that its past the end of its useful life and in need of prioritized replacement or repair). An asset receiving a score of 2.5 or less is considered to be past the end of its useful life.²

Revenue Fleet

As outlined in the agency's Fleet Plan from the FY 2022 Capital Improvement Plan (CIP), HRT aims to replace its 29-foot buses after 12 years of service and larger buses after 14 years of service. Due to the lead time associated with procurement, this means HRT needs to initiate procurement at 10 or 12 years respectively. The agency conducts mid-life repowers after six to seven years of service to improve vehicle reliability in the second half of its useful life. HRT updates its fleet plan each year as part of the agency's CIP, which includes a replacement and rehabilitation schedule. Following this plan will lower the average age of the revenue fleet over time, prolong the life of the vehicles through the repower program, and improve service reliability. HRT targets a 20 percent spare ratio for its bus fleet.

HRT strives to achieve an optimum fleet mix based on ridership and the required number of vehicles and vehicle size for each route, and regularly reassesses needs based on changes to service and demand. HRT assesses the appropriate vehicle size by route by determining the number of seats that are available on each route and the number of passengers that utilize them. The vehicle size is determined by percentage of seats to passengers.

¹ 49 CFR 625.25 Parts C and D.

² While asset conditions are integers, condition assessments can be combined to yield fractional, weighted average values.

HRT aims to replace the paratransit vehicles it directly owns after four years of service or 100,000 miles. The agency also plans to initiate a paratransit fleet overhaul program in FY2023, which will see a portion of the fleet overhauled to add two more years of useful life to vehicles.

HRT’s light rail and ferry boat fleet have useful lives beyond the timeframe of the TSP. Starting in FY 2022, HRT will initiate mid-life overhauls of light rail trains. The overhaul process will be spread over seven years to ensure HRT has suitable light rail fleet availability. Ferries also undergo major overhauls during their life; however, HRT recently purchased two new ferry vessels, so there is no need for major ferry overhauls during the timeframe of this TSP. HRT does plan to initiate minor state-of-good repair investments to the ferry boats in the next two years.

Non-Revenue Fleet

HRT’s Fleet Plan from the FY 2021 CIP uses a useful life benchmark for non-revenue fleet vehicles of between 85,000 and 110,000 miles depending on vehicle type. The agency has several vehicles beyond their useful life and the CIP outlines a schedule for replacing non-revenue vehicles over the next ten years. In replacing non-revenue vehicles, HRT prioritizes replacing any vehicles critical for service delivery, such as vehicles for field supervisors and bus maintenance.

4.1.2. Facilities

HRT has developed a Facility Asset Management Plan and maintains a set of Facilities Maintenance Policies and Procedures for achieving a state of good repair on its facility assets. The mission of Facility Maintenance is to “affect a high-quality agency-wide infrastructure that is safe, functional, attractive, clean, sustainable, and sensitive the needs of [HRT’s] customers.” These policies outline procedures for:

- Reporting and managing facility maintenance work orders
- Centralizing and coordinating the acquisition of all furniture and the modification of HRT facilities
- Conducting required preventive maintenance in accordance with the manufacturer’s recommendations and other regulatory requirements on facility assets.

Since 2016 the agency has been conducting annual condition assessments on all HRT facility assets. The primary purpose of this assessment is to identify existing and expected asset deficiencies that need to be addressed and funded, notably over the next 10 years. For longer-term needs, HRT relies on its TERM Lite database to forecast facility investment needs over a 20-year timeframe.

HRT’s Facilities Asset Management Plan identifies a specific target service life, rehabilitation policy, and maintenance policy for each major facility type and their components. The rehabilitation and replacement of facility assets is regularly assessed based on observed physical asset conditions. The useful life of major asset types are outlined in **Table 4-1**. The Facility Asset Management Plan provides additional detail by asset type and component, including maintenance schedules.

Table 4-1: Useful Life by Asset Type

Asset Type	Useful Life
Buildings/ Renovation	10-50 years
Bus shelters and signs	5-20 years
Shop and garage equipment	10-30 years
Security Equipment/Surveillance Equipment	3-10 years
Furniture & fixtures	3-7 years
Computer equipment	3-5 years
Money room equipment	10 years
Radio/Communication equipment	3-8 Years
Ferry docks	20-40 Years
Bridges	10-75 Years

Administrative and Operating Facilities

HRT owns seven operations and maintenance facilities, one administration facility, and two operator restrooms.³ Of these facilities, only one maintenance facility, the Virginia Beach Trolley Base (Parks Avenue facility), had a condition assessment score of two or less, indicating the facility is due for refurbishment or replacement. HRT is in the process of replacing and relocating the facility to a new Southside maintenance and storage facility.

HRT utilizes its TERM Lite database to identify future facility maintenance needs. To determine future needs, the agency looks at both existing condition as well as building useful life. Once it goes live, Trapeze EAM will supplant TERM Lite as the agency's state-of-good repair database for facility assets.

HRT's Facility Asset Management Plan details the useful life of facility assets. HRT's useful life benchmarks for buildings is between 40 and 50 years, however many individual components within the interior and exterior of buildings have shorter useful lives. Major rehabilitation projects for buildings should be planned every 10 to 15 years to ensure fixtures, flooring, walls, ceilings, and mechanical systems are in a state of good repair.

Passenger Facilities, Infrastructure, and Amenities Policies

HRT's TAM Plan lists three park and ride lots, four transit centers, four ferry docks, 11 light rail stations, and five light rail bridges in the asset inventory, along with individual passenger amenity bus stops. All of these facilities have a current condition rating of three or better (as of May 2021).

HRT's Facility Asset Management Plan and Passenger Amenities Policy outlines procedures for the installation, maintenance and replacement of passenger facilities and amenities. Maintenance procedures and useful life benchmarks for components of transit centers mirror that of HRT's operations and administrative facilities. Passenger facilities such as light rail stations and bus transfer stations are subject to different useful life benchmarks based on the assets that exist at specific locations. For example, light rail stations have a benchmark of 40-50 years for major components like platforms, elevators, and stair towers. Other station components such as shelters and benches require more frequent replacement depending on the asset.

HRT determines the appropriate level of investment in passenger amenities based on a location's daily boardings; service type (e.g., fixed guideway); and the number of routes serviced. Transit stops with greater than 25 boardings a day are candidates for enhanced amenities such as benches and trash cans. Bus shelters are prioritized for locations with 40 or more boardings a day. Transfer centers are locations with between five and nine connecting routes and are often located off of the public right-of-way and are candidates for restrooms, landscaping, lighting, and signage in addition to bus stop amenities like shelters and seating. Transit centers are implemented only at locations with ten or more connecting routes and may feature fully enclosed spaces with indoor seating, air conditioning, passenger information areas, and restrooms, among other features.

HRT has alternate standards for bus stops within the RTS network (757 Express). To maximize the potential ridership of the RTS, flexibility in the level of amenities is allowed. RTS stops may include freestanding benches, shelters, and/or bicycle racks regardless of the level of anticipated ridership. RTS passenger facilities should be located on HRT property, or on property otherwise controlled by HRT and/or in partnership with municipal governments but may be placed on private property with the consent and agreement of the property owner.

4.1.3. Non-Facility Assets Policies

HRT plans to refurbish and replace non-facility assets based on the useful life of these assets as well as their condition. Non-facility assets are defined in the TAM Plan as those assets that were not included in the onsite facility inspections conducted during the development of the TAM Plan. These include facilities-related equipment, storage yards, guideway, structures, and communications, electrification, and revenue collection systems. The results show that 80 percent of HRT's non-facility assets are in adequate or better condition (by replacement value), with vehicle assets comprising the majority of non-facility assets in less than adequate condition based on age in relation to useful life.

³ In addition to these facilities, HRT leases one facility.

4.1.4. Technology and ITS Policies

HRT aims to replace its ITS and technology assets when they are no longer supported by the vendor, they come to the end of their useful life, and/or the technology no longer integrates with other related systems. HRT’s most recent TAM Plan does not include a full inventory of technology assets. Compared to other asset classes like vehicles and facilities, technology assets need more frequent replacement. Technology obsolescence, changing requirements, lack of vendor support, and wear and tear all impact the frequency of replacement. Much of the hardware and software HRT relies on requires replacement every four to six years.

4.2. Capital Improvement Plan

4.2.1. Background

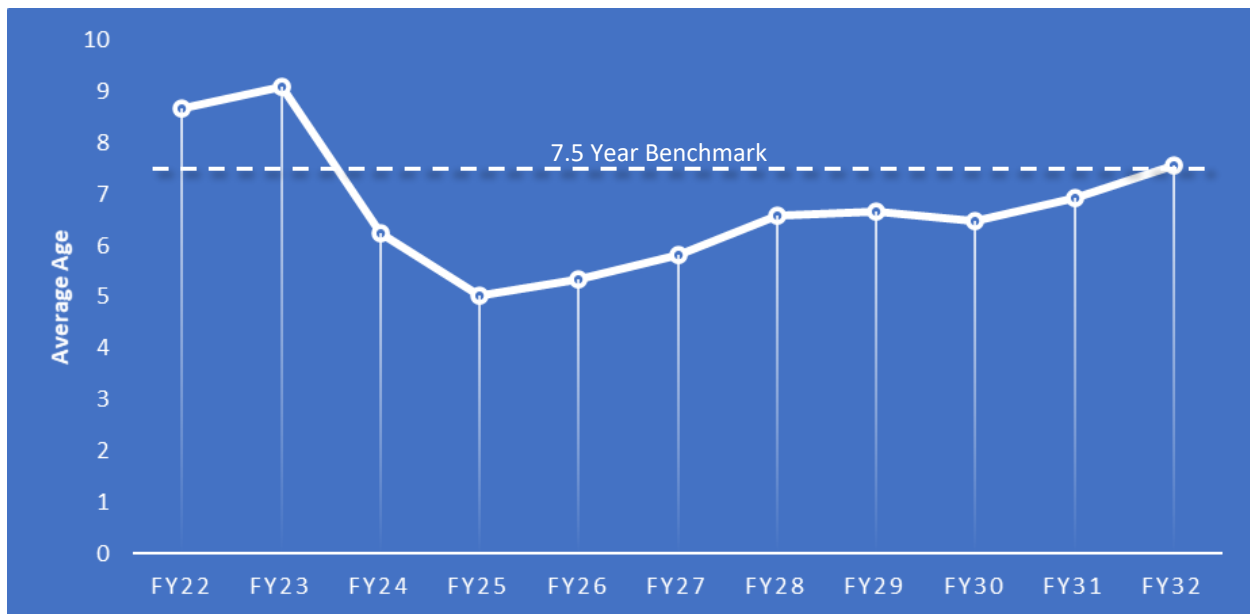
From buses and buildings to technology and transit centers, HRT relies on a wide range of capital assets to support daily operations. To help plan for and prioritize capital needs, every year the agency prepares a 10-year Capital Improvement Plan (CIP). HRT is currently preparing its FY 2023 to FY 2032 CIP, which will go to the TDCHR for adoption in December 2021. The CIP is fiscally constrained and developed collaboratively across the agency’s departments. Capital needs are prioritized based on metrics falling into four criteria: service delivery, operational efficiency, state of good repair, and risk reduction. The FY 2023 to FY 2032 CIP was developed in close coordination with this minor TSP update and reflects the needs associated with the service improvements included in **Chapter 3**.

The availability of funding through the Hampton Roads Regional Transit Fund (HRRTF) will allow HRT to invest in a range of capital improvements associated with service expansion, including new vehicles, passenger facilities, operating facilities, and technology. Many projects in the CIP are directly related to the service improvements included in Chapter 3. Even the ones which do not have a direct relation are still indirectly needed to support service expansion as they are necessary for maintaining HRT’s assets in a state of good repair.

4.2.2. Revenue Fleet

HRT’s revenue fleet has an average age of 8.7 years in FY 2022, shown in **Figure 4-1**. The agency is currently in the midst of a major bus fleet overhaul. Due to the lag time between procurement and delivery, HRT will not see a major decline in bus fleet age until FY 2024.

Figure 4-1: Average Bus Age



Over the course of the 10-year CIP, HRT plans to initiate replacement of 161 buses, conduct mid-life repowers on an additional 247⁴, and expand the fleet by 48 buses (**Table 4-2**). A large portion of HRT's fleet is over eight years old today, and the agency will need to replace the majority of its buses over the next four years. By FY 2025, HRT anticipates its replacement needs will decline, leading to a gradual increase in average fleet age. The agency is working to spread out its fleet replacements to better distribute vehicle retirements and replacements.

Over the next five years, HRT will undergo the largest fleet expansion in more than a decade. HRT already initiated procurement on 24 expansion buses in early FY 2022 (Group A), with plans to apply for HRRTF funds for another 12 buses in the second half of FY 2022 (Group B) and 12 more buses in FY 2023 (Group C). These additional vehicles are needed to realize the service recommendations outlined in **Chapter 3**. The agency will need to build a new operating base in Virginia Beach to replace its Parks Avenue facility to accommodate the expanded fleet.

Table 4-2: Number of Planned Replacement, Expansion and Repowers by Year of Grant Request

	FY22*	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Replace	-	31	14	6	5	21	26	14	10	15	19
Expansion	12	12	-	-	-	-	-	-	-	-	-
Repower (Existing Fleet)	-	27	-	14	25	19	20	8	47	42	9
Repower (Expansion Fleet)	-	-	-	-	-	-	-	-	33	3	-

*FY 2022 excludes projects funded in the first half of the fiscal year; investments initiated in Q1 and Q2 of FY2022 not included in the table.

In addition to buses, HRT will need to procure 177⁵ replacement and six expansion paratransit vehicles over the next 10 years (**Table 4-3**). These replacements are intended to keep the fleet in a state of good repair while the six expansion vehicles support additional paratransit service requirements related to the implementation of 757 Express service. HRT plans to overhaul a portion of its paratransit fleet in FY 2023 and FY 2026 in order to spread out the replacement cycle. The agency expects repowers to extend the life of paratransit vehicles to six years, enabling a more staggered vehicle replacement schedule.

Table 4-3: Paratransit Replacement Schedule by Year of Grant Request

	FY22*	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Replacement	-	-	33	15	17	9	24	23	26	-	24
Expansion	6	-	-	-	-	-	6**	-	-	-	-
Overhaul	-	32	-	-	8	-	-	-	-	-	-

*FY 2022 excludes projects funded in the first half of the fiscal year.

**Replacement of previously procured expansion vehicles.

4.2.3. Non-Revenue Fleet

HRT's non-revenue fleet consists of the support vehicles necessary for keeping the transit system running. HRT has a diverse fleet of non-revenue vehicles, including passenger cars, pick-up trucks, vans, flat-bed trucks, and special purpose medium and heavy-duty vehicles. HRT expects to replace 46 non-revenue vehicles in the next 10 years; in addition to vehicle replacement, implementation of the HRRTF-funded service expansion outlined in **Chapter 3** will require 26 additional vehicles (**Table 4-4**). HRT's expansion vehicles are expected to need replacement by FY 2031.

Table 4-4: Non-Revenue Fleet Replacement Needs

	FY22*	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Non-Revenue Replacements	-	7	3	4	3	-	7	4	4	10	4
Non-Revenue Expansion	26	-	-	-	-	-	-	-	-	26**	-

*FY 2022 excludes projects funded in the first half of the fiscal year.

**Replacement of previously procured expansion vehicles.

⁴ Includes repowering of proposed expansion vehicles in the 10-year timeframe.

⁵ Includes replacing the six expansion paratransit vehicles at the end of their useful life.

4.2.4. Operations and Maintenance Facilities

Funded Investments

HRT has identified funding in the constrained CIP for four operating and maintenance facility projects over the next 10 years. The replacement and relocation of the Parks Avenue operating division is the only project tied to the TSP recommendations in **Chapter 3** but would still be a priority for HRT even without any service expansion due to the deficiencies of the existing Parks Avenue facility. All the operations and maintenance facilities projects, with the exception of the Norfolk Tide Facility Foundation Repairs, will be initiated in the next two years.

- **Parks Avenue Replacement and Relocation:** This project will relocate and replace Virginia Beach's Parks Avenue operating base, which is critical to meet both existing operating needs and RTS needs. The existing facility has several deficiencies: it is past its useful life, lacks space for additional vehicles, cannot accommodate most bus maintenance functions, and lacks the facilities to operate outside the peak summer season. The new Southside Operation Division will address state of good repair issues and expansion needs that support RTS Group B and Group C, as well as enhance operational efficiency by drastically reducing deadhead miles. The new facility will accommodate year-round operations and be large enough to support the storage, maintenance, and operation of Group B and Group C in addition to trolley operations (100 buses). In addition, HRT is conducting an electrification study that will consider costs, benefits, and opportunities to support a fleet transition to battery-electric buses beginning with the new Southside Operating Division. The schedule and programming of funds targets delivery in time to serve RTS Group C service, contingent on site availability/suitable development conditions; HRT will adapt the capital investment strategy based on actual conditions. HRT has already fully allocated funds for land acquisition, design, and environmental work. The agency is pursuing state, federal formula, federal discretionary, and HRRTF funds to fully fund construction. Additional grant opportunities are being pursued to prepare the facility for bus fleet electrification. The facility is slated to be completed in 2026.
- **Hampton Facility Renovation:** HRT will be undertaking the final phase of renovations—upgrading the administrative and maintenance spaces—at its 3400 Victoria Boulevard facility in Hampton. The project is funded with RSTP funds allocated between FY 2025 to FY 2028. HRT would like to accelerate work if funding becomes available.
- **18th Street Building 1 and 2 Rehabilitation:** This project would complete state-of-good-repair investments at HRT's 18th Street Building 1 and 2 administrative facilities. Investments include reconfiguration of space, updated technology, new furniture, and creation of a dedicated space for customer service at dispatch. The project is programmed in FY 2024.
- **Gate Replacement:** This project would replace non-functioning gates at HRT operating facilities. HRT programmed funds for a gate design study in FY 2023 and will pursue additional funding based on the conclusion of that study.
- **Norfolk Tide Facility (NTF) Foundation Repair:** The foundation at the NTF is suffering from ground subsistence. If the soil continues to subside at the site, the foundation will need to be repaired. Funding for repair work is programmed in FY 2025 and FY 2026 and is contingent on the outcome of ongoing soil monitoring.

4.2.5. Passenger Facilities, Infrastructure, and Amenities

The implementation of the 757 Express service will necessitate the replacement or renovation of several transfer centers across the HRT service area. The agency plans to use HRRTF funds to replace/relocate three transfer centers. HRT also plans to more than double the number of stops in the system with bus shelters and implement upgraded bus amenities on 757 Express corridors. Finally, HRT has programmed funds for state-of-good repair renovations at several transit centers.

- **Newport News and Hampton Transit Centers:** These two facilities are the main hubs for transit service on HRT's Northside. HRT recently completed exterior work on the facilities and is looking to program funds in FY 2024 to start interior renovations.
- **Robert Hall Transfer Center Replacement:** This project would replace the on-street Robert Hall Transfer with a new off-street facility that will function as a hub for bus service in Chesapeake. Funding programmed in FY 2024 for the project. Final timing and cost are still being finalized as a site has not been identified yet for the facility. This project is tied to the implementation of HRRTF funded 757 Express service.

- **Evelyn T. Butts Transfer Center:** Evelyn T. Butts is one of HRT’s busiest transfer locations, however the current on-street facility is poorly located and has limited passenger amenities. Funding is programmed in FY 2024 for relocating and replacing this transfer center. Final timing and cost are still being finalized as a site has not been identified yet for the facility. This project is tied to the implementation of HRRTF funded 757 Express service.
- **Net Center Replacement:** HRT is in the process of replacing its transfer location at the Net Center in Hampton to a new on-street location on Orcutt Avenue in the city of Hampton. The project is programmed to receive funding for the final phase in FY 2023. The project is tied to the implementation of HRRTF funded 757 Express service.
- **Bus Stop Amenity Program:** This project would program funds between FY 2024 and FY 2027 for new shelters and other bus stop passenger amenities. HRT installed 40 shelters under this program in FY 2022 and has funds to install additional shelters in FY 2023. This project is tied to the implementation of HRRTF funded 757 Express service.
- **HRT Paving Program:** HRT expects to program money in FY 2024 to repair paved surfaces with a condition rating of three or worse at agency-owned bus loops and transit centers.
- **Wards Corner Transfer Center Restroom and Paving Renovation:** HRT plans to make state-of-good repair investments to the Wards Corner Transfer Center’s restroom and paved surfaces. HRT expects to program funds for this work in FY 2025.
- **Silverleaf Transfer Center Upgrades:** HRT plans to program funds to renovate the Silverleaf Transfer Center in FY 2028.

In addition to transit and transfer center projects, HRT plans to continue applying for Federal Transportation Alternatives Program (TAP) funding to support investment in bus stop amenities and ADA access. Finally, HRT has several capital projects related to the maintenance of the Tide light rail right-of-way and stations. These projects are scheduled to be funded and completed based on asset condition and recommended useful life.

4.2.6. Technology and ITS

HRT has several IT investments planned, including upgrades to passenger-facing and back-end technology. Most of these investments are needed independent of the TSP recommendations but are critical in supporting the implementation of new services. Most of the major IT investments are slated to occur over the next three years. Mid- and long-term investments are focused on upgrading and replacing existing software and hardware systems as they reach the end of their useful life. The only investments directly tied to the implementation of HRRTF-funded service is the implementation of a range of passenger-facing and backend investments to support expanded service, including the procurement of passenger information displays for key transfer locations on the 757 Express network.

- HRT has programmed funding in FY 2023 for a range of technology projects that will maintain aging systems, improve cyber security at the agency, and support the roll-out of 757 Express service:
 - Large technology infrastructure
 - Client Technology System state of good repair investments
 - Initiate replacement of HRT’s Human Resources Management Software (HRMS)
 - Replace bus ticket vending machines at the end of their useful life
 - Replace contract and vendor management software.
- HRT has several technology investments planned after FY 2023, including:
 - Ongoing client technology systems upgrades (FY 2023-FY 2031)
 - Ongoing large technology infrastructure upgrades (FY 2023-FY 2031)
 - Replacement of HASTUS scheduling software (FY 2024 and FY 2032)
 - Replace passenger information displays at transit centers initially implemented in FY 2023 as part of the HRRTF funded 757 Express network (FY 2027 and FY 2032)
 - Maintenance of on-vehicle network hardware (FY 2024-FY 2032)
 - Replacement of Audio Monitoring System (FY 2029)
 - Replaced of fixed-side CAD/AVL systems (FY 2025)
 - Upgrade of TVM PIN Pads (FY 2026)

- Implement Technology Asset Inventory (Enterprise Asset Management system, or EAM) (FY 2024)
- Upgrade/maintenance of EAM system (FY 2026)
- Technology planning project and innovations initiative (FY 2024-FY 2026)
- Internal digital signage system (FY 2024 and FY 2028)
- ICS cyber security maintenance (FY 2027).

4.2.7. Light Rail Infrastructure

HRT has planned investments for the Tide light rail in each of the next 10 years. These investments will maintain the Tide in a state of good repair. None of these investments are tied to the TSP recommendations in **Chapter 3**. Planned investments include:

- Ongoing annual state of good repair investments for light rail right-of-way and vehicles. Note that based on the age of LRT infrastructure, HRT expects to initiate major track upgrades starting in FY 2030.
- Initiate mid-life overhaul of light rail trains (LRT) starting in FY 2023
- LRT station renovations and park-and-ride maintenance (FY 2024-FY 2032)
- SCADA maintenance (FY 2027)
- Maintenance and repair of LRT aerial structures (FY 2024-FY 2032)
- Purchase of an LRT re-rail truck for track maintenance (FY 2023).

CHAPTER 5

Financial Plan

FY2023 – FY2032



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Contents

5. Financial Plan & Outlook.....	5-1
5.1 <i>Operating</i>	5-1
5.1.1. Operating Sources of Funds	5-1
5.1.2. Operating Uses of Funds.....	5-2
5.1.3. Potential Sources of Funds for Unfunded Operating Needs.....	5-3
5.2 <i>Capital</i>	5-4
5.2.1. Capital Sources of Funds.....	5-4
5.2.2. Capital Uses of Funds.....	5-5
5.2.3. Potential Sources of Funds for Unfunded Capital Needs.....	5-6

Tables

Table 5-1: Operating Sources of Funds (YOES\$ Millions)	5-1
Table 5-2: HRRTF Revenues (YOES\$ Millions).....	5-2
Table 5-3: Operating Uses of Funds by Mode (YOES\$ Millions).....	5-3
Table 5-4: Potential Funding/Cost Savings to be Identified (YOES\$ Millions)	5-4
Table 5-5: Capital Sources of Funds Active and New Projects (YOES\$ Millions)	5-4
Table 5-6: State Funds for Capital Projects (YOES\$ Millions)	5-5
Table 5-7: Capital Uses of Funds (YOES\$ Millions)	5-6
Table 5-8: Unfunded Capital Needs (YOES\$ Millions)	5-6

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5. Financial Plan & Outlook

This financial plan covers Fiscal Years (FY) 2023 to 2032, for operations and capital investments of the agency. It reflects a conservative plan for transit services the agency has developed with local partners. It is not a budget document. Rather, it reflects a financial “snapshot in time.” As the Transit Strategic Plan (TSP) undergoes annual updates, the information contained in this chapter will change year-to-year based on dynamic needs and the most current conditions.

5.1 Operating

This section describes the operating financial outlook for the ten-year plan. It includes known sources of funds, operating expenditures, as well as potential additional sources of funds to fill any potential funding shortfalls. HRT does not maintain any reserve funds.

5.1.1. Operating Sources of Funds

Table 5-1 below summarizes HRT’s operating sources of funds for the ten years of the plan. Estimates include fare revenues, non-operating revenues, federal funds, state funds, regional funds (HRRTF), and local funds.

Table 5-1: Operating Sources of Funds (YOES\$ Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Fare Revenues	8.2	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3
Non-Operating Revenues	3.2	3.2	3.2	3.3	3.3	3.3	3.4	3.4	3.5	3.5
Federal Funds (PM, ADA, CCC)	17.0	16.9	16.4	15.9	15.5	15.7	15.8	15.9	15.9	16.0
Non-Traditional Federal Funds (CRRSAA, ARP)	7.8	12.4	17.4	19.0	-	-	-	-	-	-
State Funds	22.8	23.3	23.1	22.9	22.2	22.4	22.6	22.9	23.1	23.3
HRRTF	18.9	26.8	34.4	36.1	37.1	38.1	39.2	41.0	41.4	42.6
Local Funds	45.4	46.0	46.7	47.4	48.2	48.9	49.6	50.3	51.1	51.9
Total Operating Sources of Funds	123.2	137.1	149.9	153.3	135.1	137.4	139.6	142.7	144.2	146.6

Note: (1) Numbers may not add due to rounding. (2) HRRTF revenues displayed in this table capture the funding required to meet RTS operating commitments and are not constrained by current revenue estimates.

Fare Revenue

HRT collects fare revenue from its bus, light rail (The Tide), ferry, and paratransit services, but does not collect fare revenue for vanpool service. Bus, The Tide, and ferry all have a \$2.00 base fare; the base fare for paratransit is \$3.50. Note that HRT has decided to postpone future fare increases.

Non-Operating Revenues

Non-operating revenues in **Table 5-1** include Elizabeth River Crossing (ERC) operating assistance, advertising revenue, and non-transportation revenue.

ERC operating assistance is expected to grow with the consumer price index (CPI) annually (1.7 percent). CPI was determined based on the FY 2011-FY 2021 compounded annual growth rate (CAGR) based on the Bureau of Labor Statistics series “All items in South urban, all urban consumers”. The remaining non-operating revenues are assumed to be constant throughout the period.

Federal Sources of Funds

Federal sources of funds shown in **Table 5-1** include the Federal Transit Administration’s (FTA) Urbanized Area Formula Program (Section 5307) and the State of Good Repair Program (Section 5337). These programs are intended for capital expenses but can be used to fund eligible preventive maintenance (PM) expenses, paratransit service (Americans with Disabilities Act – ADA) and capital cost of contracting (CCC). Throughout the TSP period, HRT plans to gradually reduce the share of federal funds flexed to cover PM expenses, with a target of 65 percent of Section 5307 funds and 34.5 percent of Section 5337 funds to be used for PM. Non-traditional Federal Funds include federal aid provided by the Coronavirus Response and Relief Supplemental Appropriations Act (CRRSAA), and the American Rescue Plan Act (ARP).

State Sources of Funds

State sources of funds include state operating assistance and non-recurring state grants. The plan assumes that HRT’s state operating assistance will be \$21.8 million during the first three years of the TSP period and will grow by one percent annually from FY 2026 to FY 2032. Non-recurring state grants includes Interstate Operations and Enhancement Program (IOEP) grant funding in FY 2023 to FY 2026 for three bus routes, as well as Transit Ridership Incentive Program (TRIP) grant funding in FY 2023 to FY 2025 for the Navy Base Circulator.

Regional Sources of Funds

The plan assumes that HRRTF revenues will accrue to HRT following the latest forecast by the Virginia Department of Taxation at the time this chapter was prepared, extended to FY 2032 (**Table 5-2**).

Table 5-2: HRRTF Revenues (YOES\$ Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
State Recordation Tax	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Regional Transportation Improvement Fee (Grantor’s tax)	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
Transient Occupancy Tax	7.7	8.1	8.5	8.6	8.6	8.6	8.7	8.8	8.9	8.9
Investment Revenues	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Total HRRTF	32.7	33.2	33.6	33.8	33.9	33.9	33.9	34.0	34.1	34.2

Note: Numbers may not add due to rounding.

Local Sources of Funds

HRT receives local operating assistance from its six member cities. Each city’s share of the total local operating assistance is determined based on the Cost Allocation Agreement. The total local operating assistance is determined net of federal funding, state funding, fare revenues, and other sources.

Local operating assistance is assumed to grow 1.5 percent per year from FY 2024 to FY 2032.

5.1.2. Operating Uses of Funds

Table 5-3 summarizes operating uses of funds by mode. Operating uses of funds for each mode include expenses associated with operations, maintenance, non-vehicle maintenance, and administration.

Baseline escalation for all operating expenses is 1.7 percent or CPI. Escalation assumptions are higher for expense categories such as salaries, fringe, healthcare, and fuel, and may sometimes vary by mode or between operations, maintenance, non-vehicle maintenance, and administrative expenses.

In addition to escalation, bus operating costs reflect a net increase in service during the TSP period as a result of implementing the service plan outlined in **Chapter 3**. The operating expenses shown in **Table 5-3** represent a conservative estimate of what it would cost to deliver this service plan.

Table 5-3: Operating Uses of Funds by Mode (YOES Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Local Bus Operating Expenses	72.6	77.0	81.3	85.6	89.1	93.8	98.8	104.1	109.6	115.4
MAX Operating Expenses	5.0	5.3	6.4	7.2	7.4	7.6	7.8	8.0	8.3	8.5
Regional Backbone + PCS Operating Expenses	6.9	16.4	24.2	26.7	27.4	28.1	28.8	29.6	30.4	31.1
LRT Operating Expenses	11.5	11.8	12.1	12.5	12.8	13.1	13.5	13.8	14.2	14.6
Paratransit Operating Expenses	16.7	17.4	18.0	18.7	19.5	20.3	21.1	21.9	23.0	23.7
Ferry Operating Expenses	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.9	1.9	2.0
RTS Program Costs	8.8	7.6	6.0	4.1	4.2	4.3	4.4	5.3	4.7	4.8
Total Operating Uses of Funds	123.2	137.1	149.9	156.5	162.2	169.1	176.3	184.6	192.0	200.1

Note: Numbers may not add due to rounding.

Regional Priorities and Policies

One of HRT’s main priorities during the TSP period is to implement a regional backbone of bus service connecting cities with high-frequency service on 13 routes. The current service plan in **Chapter 3** lays out service frequencies for all bus routes in the HRT service network. **Chapter 6** lays out the service frequencies for the routes funded by HRRTF funds. Chapter 3 also provides the information for those Regional Backbone routes that will gradually introduce midday 15-minute service frequencies for Routes 101, 112, and 114 in FY 2023.

Labor and Service Agreements

HRT’s current labor agreement expires at the end of June 2024; labor costs are subject to variation based on contract renegotiation. HRT uses service contracts for its paratransit service and for its ferry service. As noted in **Appendix A**, the current paratransit contract has two one-year options available, which could extend the contract to January 31, 2025, and the current ferry service contract is scheduled to end July 11, 2023. Service contract costs are subject to variation after these contracts expire.

5.1.3. Potential Sources of Funds for Unfunded Operating Needs

The annual operating surplus/deficit is shown in **Table 5-4**, where positive values indicate that additional funding or cost savings are needed. Based on current known sources of funds, annual deficits could occur starting FY 2026 based on the current planning model. Annual operating deficits are driven by costs growing faster than revenues. Nationwide, transit operators have historically observed that transit cost inflation has outpaced the growth in available revenues to support transit – which is especially true in the current environment impacted by the COVID-19 public health emergency. The impacts of high transit cost inflation are compounded by planned increases in service over the 10-year period. Additionally, the revenue assumptions incorporated in the plan are conservative to reflect the current uncertainty regarding farebox revenue recovery post-pandemic, and the future of federal funding. Not included in this TSP update is additional funding that may accrue to HRT as a result of a new federal transportation authorization bill (replacing the Fixing America’s Surface Transportation or FAST Act) and other federal apportionments. With respect to impacts related to the COVID-19 public health emergency, HRT will continue to utilize apportionments of non-traditional federal funding consistent with the agency’s multi-year strategy as outlined in **Chapter 1**.

Year to year, it is important to emphasize that HRT actively manages transit operations and annual budgets to ensure revenues and expenses are balanced. **As a practical matter, in no year will HRT management bring forward an operating budget that is not balanced.**

Table 5-4: Potential Funding/Cost Savings to be Identified (YOES Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Additional Funding / Cost Savings to be Identified	-	-	-	3.2	27.1	31.7	36.7	42.0	47.8	53.5

5.2. Capital

5.2.1. Capital Sources of Funds

The capital sources of funds are separated between active and new capital projects. Active capital projects are in progress and use funds pledged in the latest Capital Improvement Plan (CIP) and grant applications to the state and/or the FTA. New projects are programmed but do not have secured funding yet. Both active projects and new capital projects are funded through a combination of federal funds (formula and discretionary), state funds, and local funds (primarily Advanced Capital Contribution or ACC). For projects that are part of the Regional Program in **Chapter 6**, HRRTF funds are also pledged for capital uses.

In **Table 5-5** below, “federal funds” for active capital projects include both federal formula programs and federal discretionary programs as both are already pledged for active capital projects. For new capital projects, a distinction is made between federal formula funds and federal discretionary funds, the latter being included in “other funds”. Note that no discretionary funds are assumed outside of what is programmed in HRT’s current CIP. Other funds are covered in more detail in **Section 3.1.5**.

Table 5-5: Capital Sources of Funds Active and New Projects (YOES Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Federal Funds	23.6	9.6	13.8	1.4	-	-	-	-	-	-
State Funds	15.7	6.3	14.8	0.7	-	-	-	-	-	-
HRRTF	-	-	-	-	-	-	-	-	-	-
Local Funds (ACC)	2.2	0.8	2.4	0.0	-	-	-	-	-	-
Total Active Capital Projects Sources of Funds	41.5	16.7	30.9	2.1	-	-	-	-	-	-
Federal Formula Funds	11.2	12.9	8.4	10.7	9.4	9.8	5.9	10.4	8.5	10.1
State Funds	15.9	22.6	12.4	16.8	17.4	23.3	13.8	24.5	21.4	27.0
HRRTF	4.0	7.3	5.8	6.0	1.8	0.0	-	0.2	0.1	0.0
Other Funds (incl. discretionary)	7.7	6.0	6.9	4.4	13.8	1.7	-	-	-	-
ACC Funds	4.2	5.4	1.0	1.5	2.3	1.6	1.1	1.5	2.0	3.2
Total New Capital Projects Sources of Funds	43.1	54.1	34.5	39.4	44.6	36.5	20.8	36.6	32.0	40.3
Total Capital Sources of Funds	84.6	70.9	65.5	41.5	44.6	36.5	20.8	36.6	32.0	40.3

Note: (1) Numbers may not add due to rounding. (2) HRRTF revenues displayed in this table capture the funding required to meet RTS capital commitments and are not constrained by current revenue estimates.

Federal Formula Funds

Federal capital funding sources include the following formula grant programs: Section 5307, Section 5337, and the Bus and Bus Facilities Program (Section 5339). By FY 2026 the agency aims to reduce the amount of Section 5307 funds used for PM gradually, such that the distribution would be: 25.0 percent for capital, 10.0 percent for ADA, and 65.0 percent for PM.

By FY 2026 the agency aims to reduce the amount of Section 5337 funds used for PM gradually, such that the distribution would be: 65.5 percent for capital and 34.5 percent for PM.

Section 5339 funds can only be used for capital expenses related to bus service.

State Funds

The amount of state capital funds varies annually depending on several factors such as the mix of projects (State of Good Repair, Minor Enhancement, or Major Expansion) as well as availability of federal and local funding to be leveraged with state funds. The planned state funds are summarized in **Table 5-6** below.

Table 5-6: State Funds for Capital Projects (YOE\$ Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Total New Capital Projects Uses of Funds	43.1	54.1	34.5	39.4	44.6	36.5	20.8	36.6	32.0	40.3
State Funds	15.9	22.6	12.4	16.8	17.4	23.3	13.8	24.5	21.4	27.0
State Share of New Projects (%)	37%	42%	36%	43%	39%	64%	66%	67%	67%	67%

HRRTF Funds

HRRTF funds are used to support capital projects underlying the implementation of the Regional Program of services documented in **Chapter 6**, such as the procurement of new buses, building of new customer amenities, and relocating and replacing the current Parks Avenue facility. HRT and HRTAC, which administers HRRTF funds, will coordinate on the effective draw down and use of HRRTF funds, including any opportunities related to debt financing.

Local Funds

The local funds summarized above in **Table 5-5** are provided by the six local jurisdictions served by HRT to support ongoing capital needs. This funding is largely used to match state and federal grants with the required local dollars. Local funds may also include ad-hoc local funding sources such as the Virginia Beach Refund.

Other Funds

Other funds include federal, state, and regional discretionary funds such as the Congestion Mitigation and Air Quality (CMAQ), the Surface Transportation Program (STP), and the Transportation Alternatives Program (TAP). Additional competitive grants at the federal level could help support HRT's capital funding needs including for ongoing state-of-good-repair, include the Bus and Bus Facilities Grant program and the Rebuilding American Infrastructure with Sustainability and Equity (RAISE). As of the time of this TSP update, new transportation infrastructure legislation and federal transportation reauthorization legislation is pending. HRT anticipates additional federal funding opportunities through both formula-based and discretionary programs. HRT will pursue additional funding opportunities in all areas for which the agency may be eligible and competitive.

5.2.2. Capital Uses of Funds

Capital uses of funds are summarized in **Table 5-7**, separated by active capital projects and new capital projects. Active capital projects are in progress and use funds within the overall constraints of the current CIP and associated grant applications to the state and/or the FTA, whereas new projects are programmed but do not have secured funding yet. New project information for the TSP period was incorporated through the normal CIP update cycle. The detail on investments required to support the RTS are contained in **Chapter 6**.

Table 5-7: Capital Uses of Funds (YOE\$ Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Active Capital Projects Uses of Funds	41.5	16.7	30.9	2.1	-	-	-	-	-	-
New Capital Projects Uses of Funds	43.1	54.1	34.5	39.4	44.6	36.5	20.8	36.6	32.0	40.3
Total Capital Uses of Funds	84.6	70.9	65.5	41.5	44.6	36.5	20.8	36.6	32.0	40.3

Note: Numbers may not add due to rounding.

Competitive Demands on Funding

In any given 10-year plan, the agency has various capital needs that compete for and may exceed the limit of existing resources. This requires the agency to create a prioritization of capital projects as documented in HRT's CIP.

5.2.3. Unfunded Capital Needs

Table 5-8 below summarizes HRT's current unfunded capital needs. As depicted, this year's annual TSP update is consistent with the updated CIP and does not identify any unfunded capital needs.

Table 5-8: Unfunded Capital Needs (YOE\$ Millions)

	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Additional Funding/Cost Savings to be Identified	-	-	-	-	-	-	-	-	-	-

CHAPTER 6

Hampton Roads Regional Transit Program

FY2023 – FY2032



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Contents

6. Hampton Roads Regional Transit Program	6-1
6.1. Background.....	6-1
6.2. Purpose and Requirements.....	6-1
6.3. Framework and Justification.....	6-2
6.4. Program.....	6-2
6.4.1. Regional Backbone.....	6-5
6.4.2. Limited/Express.....	6-8
6.5. Benefits and Outcomes.....	6-11
6.5.1. Regional Connectivity and Level of Service.....	6-11
6.5.2. Program Factors, Objectives, and Metrics.....	6-14
6.5.3. Baseline Analyses.....	6-14
6.6. Route Profiles.....	6-20
6.7. RTS Implementation.....	6-111
6.7.1. Service Grouping.....	6-111
6.7.2. Additional Phasing Factors.....	6-114
6.7.3. Timing and Components for Start-Up and Ongoing Operation	6-114
6.8. RTS Resource Allocation.....	6-121
6.8.1. Capital	6-122
6.8.2. Operations and Maintenance	6-125
6.9. Measuring Performance	6-129

Tables

Table 6-1: Regional Backbone Route Characteristics	6-5
Table 6-2: Regional Backbone Service Design Standards	6-5
Table 6-3: Limited/Express Route Characteristics	6-8
Table 6-4: Regional Backbone Major Destinations and Service Hours	6-11
Table 6-5: Limited/Express Major Destinations and Service Hours	6-12
Table 6-6: Program Investment Factors, Objectives, and Metrics	6-14
Table 6-7: Employment Access to Regional Backbone Routes	6-15
Table 6-8: Employment Access to Limited/Express Routes	6-15
Table 6-9: Population Access to Regional Backbone Routes	6-16
Table 6-10: Employed Population Access to Limited/Express Routes	6-17
Table 6-11: Regional Backbone Routes - Population and Employment Access Within a Half-Mile	6-18
Table 6-12: Multi-Modal Transit Connections	6-18
Table 6-13: Regional Backbone Average Wait Time	6-19
Table 6-14: Phasing Groups	6-111
Table 6-15: Positions for RTS Implementation	6-117
Table 6-16: RTS Program Capital Expenses and Funding	6-124
Table 6-17: Planned RTS Program Operations Costs and Revenues	6-126
Table 6-18: FY 2023 RTS Program Operations and Maintenance Expenses	6-127
Table 6-19: Planned RTS Operations & Maintenance Program Costs	6-128
Table 6-20: Planned HRRTF Revenues and Expenditures	6-128

Figures

Figure 6-1: Regional Transit Program Route Classifications - Peninsula	6-3
Figure 6-2: Regional Transit Program Route Classifications - Southside	6-4
Figure 6-3: Regional Transit Program Regional Backbone Routes - Peninsula	6-6
Figure 6-4: Regional Transit Program Regional Backbone Routes - Southside	6-7
Figure 6-5: Regional Transit Program Limited/Express Routes - Peninsula	6-9
Figure 6-6: Regional Transit Program Limited/Express Routes - Southside	6-10
Figure 6-7: Grouping - Peninsula	6-112
Figure 6-8: Grouping - Southside	6-113
Figure 6-9: Current 757 Express Logo	6-114
Figure 6-10: Mock-Up of RTS Livery	6-116
Figure 6-11: Transit Operators	6-116
Figure 6-12: On-Board Vehicle Display	6-118
Figure 6-13: Updated Passenger Waiting Facility with Solar-Powered Lights	6-118
Figure 6-14: Rendering of New Southside Bus Operating Division	6-119
Figure 6-15: Example of Potential 757 Express Bus Stop	6-121

6. Hampton Roads Regional Transit Program

6.1. Background

In 2020, the Virginia General Assembly passed legislation—Senate Bill 1038 and House Bill 1726—requiring the establishment of the Hampton Roads Regional Transit Program (the Program) and the related Hampton Roads Regional Transit Fund (the Fund). In doing so, the legislature emphasized the importance of having effective multimodal transportation, which is essential for the region’s economic growth, vitality, and competitiveness.

To this end, the Hampton Roads Regional Transit Program was established to define and supply resources for the development, operating, and capital needs for both expansion and state of good repair of reliable regional transit operations.

The Program must be documented in the Transit Strategic Plan of the Transportation District Commission of Hampton Roads (TDCHR).¹ The Hampton Roads Regional Transit Program encompasses regional transit capital and operating costs that are eligible to be funded by the Hampton Roads Regional Transit Fund, also established in 2020 by the General Assembly.²

6.2. Purpose and Requirements

Pursuant to law, the Program is explicitly for *“a core regional network of transit routes and related infrastructure, rolling stock, and support facilities.”* The express goal of the Program is *“to provide a modern, safe, and efficient core network of transit services across the Hampton Roads region.”* The Fund is administered through the Hampton Roads Transportation Accountability Commission (HRTAC). There is clear alignment between the purposes of the Hampton Roads Regional Transit Program and the Hampton Roads Regional Transit Fund.

Specifically, the Fund shall be used for *“the development, maintenance, improvement, and operation of a core and connected regional network of transit routes and related infrastructure, rolling stock, and support facilities, to include the operation of a regional system of inter-jurisdictional high-frequency bus service, in a transportation district in Hampton Roads.”*³ Additionally, per legislative guidance, expenditures of the Fund:

- Should be positively linked to factors related to *“economic development potential, employment opportunities, mobility, environmental sustainability, and quality of life.”*
- Must be used solely in the transportation district (i.e., the Transportation District of Hampton Roads, comprised of the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach), which is governed by the TDCHR and does business as Hampton Roads Transit.⁴
- Cannot be used *“to support the expansion of light rail”* beyond the boundaries of the City of Norfolk.
- Must be consistent with the regional transit planning process that is jointly developed by HRT, WATA, and Suffolk Transit and coordinated by the HRTPO, pursuant to subsection D of § 33.2-286.
- Should give priority, when possible, to the most cost-effective and sustainable investments *“to reduce or eliminate reliance upon diesel fuels.”*

¹ See Chapters 1241 and 1281 of the Acts of the Assembly, passed April 22, 2020, Code of Virginia § 33.2-2600.1 A. (pursuant to HB1726 and SB1038, respectively), accessible at <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP1281>.

² Ibid.

³ Code of Virginia § 33.2-2600.1 C.

⁴ In correspondence date May 22, 2020, Senator Lucas (chief patron of SB1038) explained the intent of law establishing the Hampton Road Regional Transit Program and Fund; “Our intent is to provide funding for Hampton Roads Transit (HRT), through its governing body (Transportation District Commission of Hampton Road - TDCHR) to design, build and operate a regional high frequency bus network across the six TDCHR cities, independent of the need for individual local government approval or additional local government funding. This is intended to be a single regional fund for this single regional project within the TDCHR footprint with money flowing directly to the single regional transit operator, which is the TDCHR and subsequently, HRT”.





6.3. Framework and Justification

The Hampton Roads Regional Transit Program is documented herein consistent with the purposes and requirements outlined in the law related to the Program and use of the Hampton Roads Regional Transit Fund. Operating and capital costs (for expansion and for ongoing state of good repair) for two classifications of bus routes fit within the Program and will be funded using moneys from the Fund. These two classifications are Regional Backbone routes and Limited/Express routes, as described in **section 6.4**. Details about these routes can be found in **Section 6.6: Route Profiles**. The Program of improvements and their phased implementation are positively linked to factors cited in the Code of Virginia (§ 33.2-2600.1). These include:

- To improve **economic development potential**.
- To increase **employment opportunities**.
- To grow overall area **mobility**.
- To support **environmental sustainability**.
- To enhance **quality of life** within the region.

The Program is also aligned with the service planning principles and service design framework detailed in **Section 1.2.3** and **Section 1.2.4** of this TSP. This includes top regional priorities of providing more reliable inter-jurisdictional bus service, prioritizing additional service frequency during hours of the day that most commuters are traveling between work and home. Finally, within the network of Program routes themselves, specific service improvements are warranted based on different justifications and can be paid for by the Fund. These justifications are identified for each route and also described in **Section 6.6: Route Profiles**. They include:

- Key Performance Indicators which detail each route’s performance, are discussed when relevant to a service change (full performance analysis data can be found in **Chapter 2, Section 2.3**).
- Justifications including reference to the assessment of transit demand and underserved area opportunities for improvement from **Chapter 2, Section 2.2.2**. Justifications include icons for quick reference:

- 
TD Transit demand and underserved areas-based opportunities for improvement from **Section 2.2.2**
- 
PB Performance-based opportunities for improvement (passengers per revenue hour, passengers per one-way trip, farebox recovery, subsidy per passenger boarding) as described in **Section 2.3.2**
- 
EB Efficiency-based opportunities for improvement (on-time performance and maximum load) as described in **Section 2.4.2**
- 
SD Improvements to meet the service design standards and goals as described in **Chapter 1**

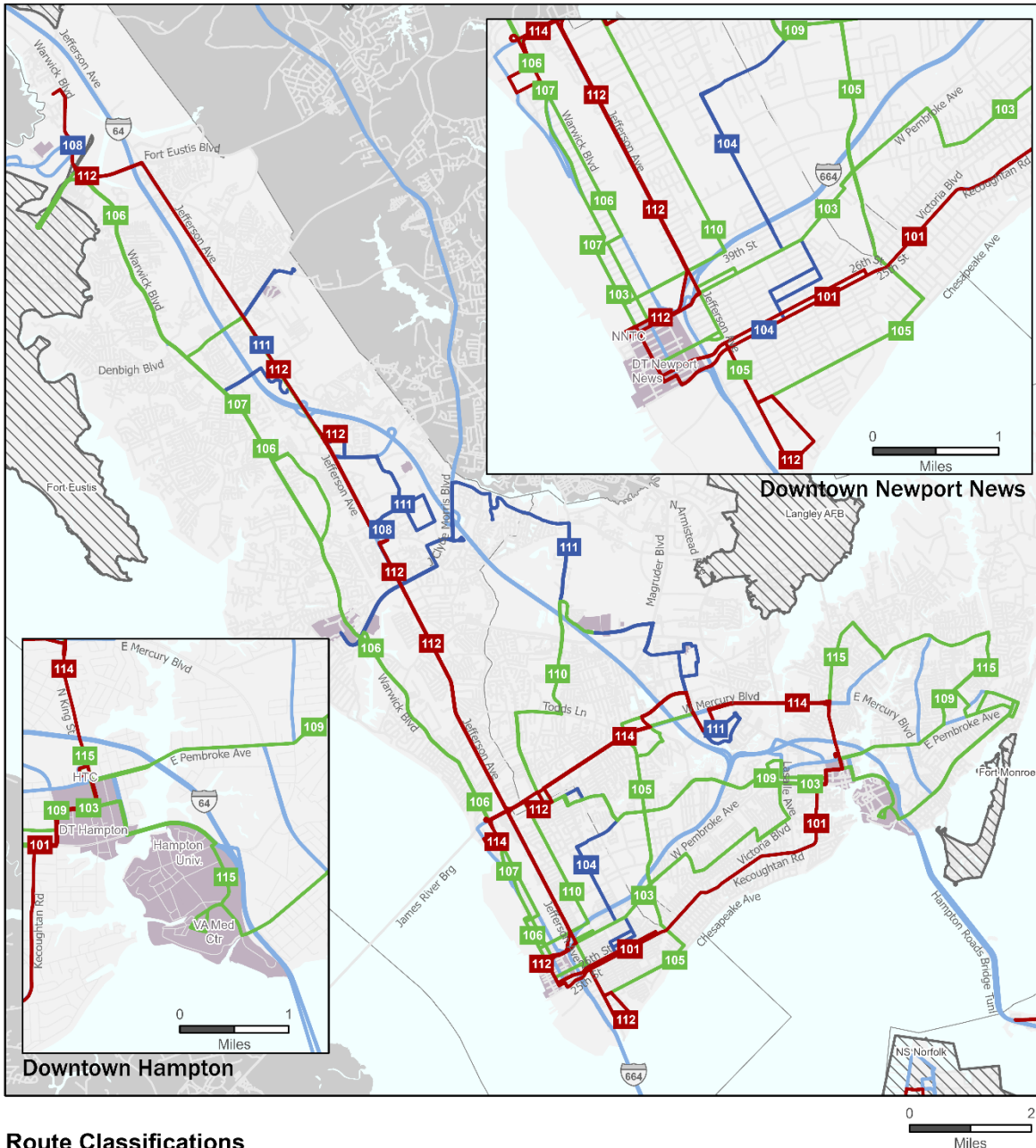
6.4. Program

This section documents the improvements that comprise the Hampton Roads Regional Transit Program within the six cities of the Transportation District of Hampton Roads. The Program is also referred to as the Regional Transit System (RTS) and HRT will implement the RTS with new branding and marketing as the “757 Express.”




Figure 6-1 and **Figure 6-2** show route classifications and delineate the two route types eligible within the Program on both the Peninsula and Southside. Specifically, routes shown in red provide high-frequency service on the “Regional Backbone” network and routes shown in light blue are “Limited/Express” routes. The rest of the HRT network, which consists of “Local Priority” and “Coverage” services, is shown on these maps to depict the supporting services that feed into the “*core and connected regional network*.”⁵ Program routes are described in more detail in **Section 6.4.1** and **Section 6.4.2**.

⁵ Code of Virginia § 33.2-2600.1 C.

Figure 6-1: Regional Transit Program Route Classifications - Peninsula



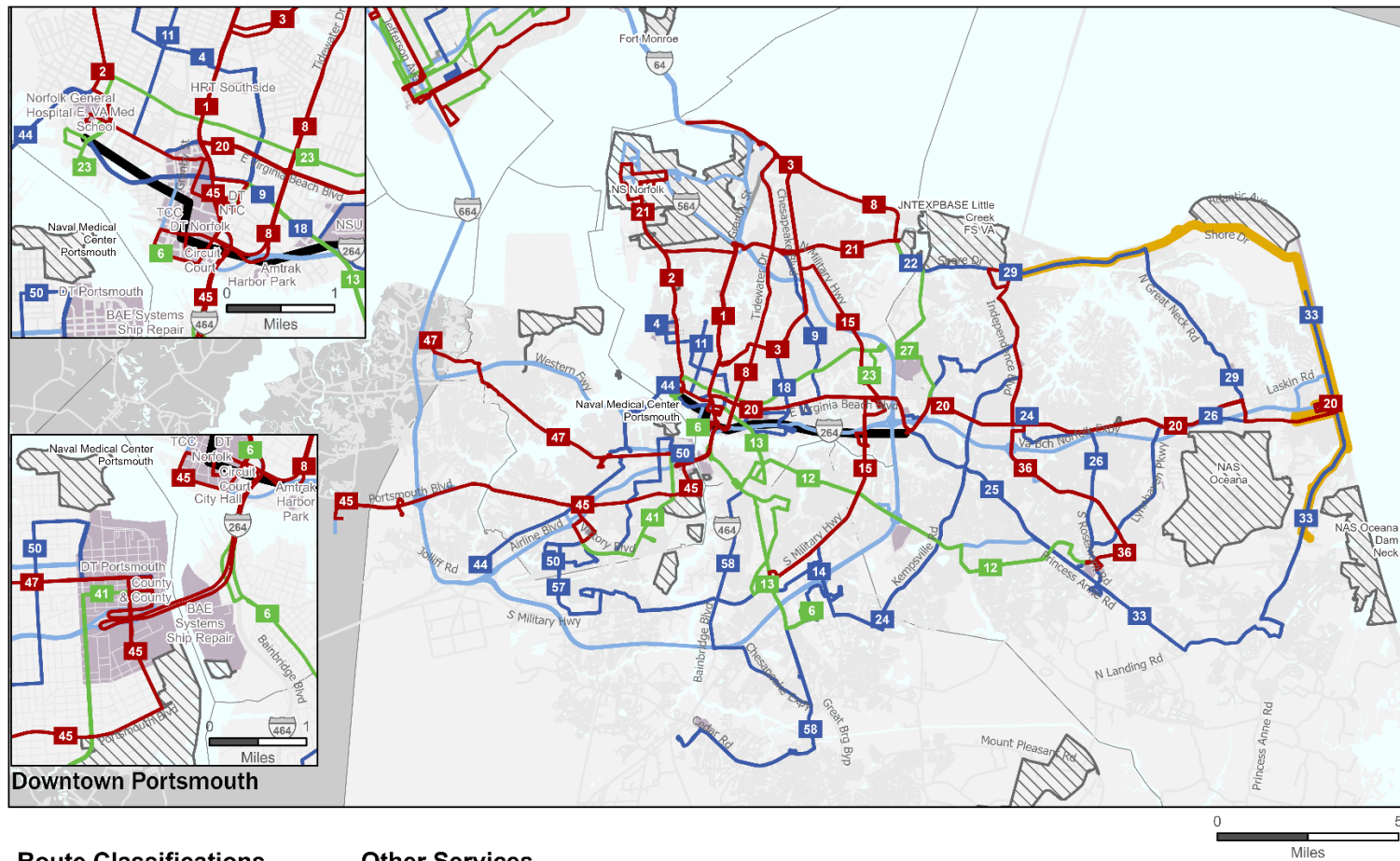
Route Classifications

- Regional Backbone
- Limited/Express
- Local Priority
- Coverage
-  Military Base
-  Activity Center
-  City Boundary

PENINSULA: Regional Transit Program Route Classifications



Figure 6-2: Regional Transit Program Route Classifications - Southside






Route Classifications

- Regional Backbone
- Limited/Express
- Local Priority
- Coverage

Other Services

- Trolley
- Light Rail
- - - Ferry

-  Military Base
-  Activity Center
-  City Boundary

SOUTHSIDE: Regional Transit Program Route Classifications



6.4.1. Regional Backbone

The core of the Program or Regional Transit System (RTS) is the Regional Backbone (shown in **Figure 6-3** and **Figure 6-4**), which comprises 13 routes that traverse major commuting corridors that connect the highest densities of people and jobs in the region. They also feature more direct service (a ratio of 1.6 or better) than other route classifications, which contributes to making these routes simple to understand and more efficient, saving travel time and operating costs compared to more circuitous routes (**Table 6-1**).

Table 6-1: Regional Backbone Route Characteristics

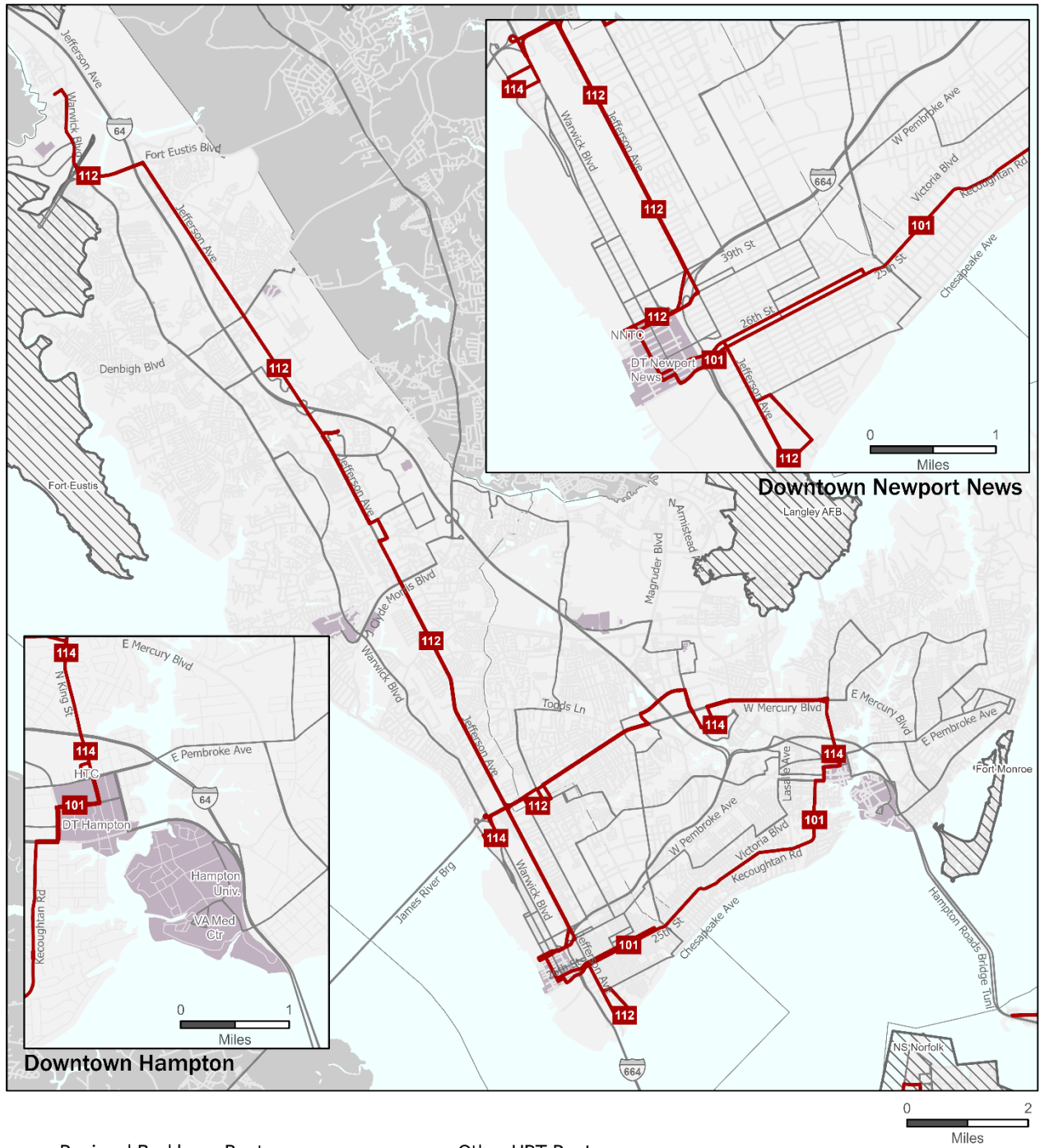
Description	Criteria		
	Interjurisdictional	Population / Job Density	Route Directness
The backbone of bus transit throughout the region, traveling on the highest-demand corridors connecting the most people to the most jobs.	Most will cross jurisdictional boundaries.	Greater than 6,500 people + jobs per square mile, averaged across whole route	1.6 or better

The Regional Backbone services will feature high-frequency, inter-jurisdictional connections with standardized levels of service across jurisdictional boundaries and operate for extended hours, seven days a week (**Table 6-2**). These routes feature the highest overall levels of fixed-route bus service HRT will offer.

Table 6-2: Regional Backbone Service Design Standards

Service Headway				Span of Service
Weekday	Peak	6:00 a.m. – 9:00 a.m. 3:00 p.m. – 6:00 p.m.	15 minutes	5:00 a.m. – 1:00 a.m.
	Midday	9:00 a.m. – 3:00 p.m.	30 minutes	
	Evening	6:00 p.m. – 9:00 p.m.	30 minutes	
Weekend	Base	8:00 a.m. – 6:00 p.m.	30 minutes	6:00 a.m. – 12:00 a.m.
	Non-base	6:00 a.m. – 8:00 a.m. 6:00 p.m. – 9:00 p.m.	30 minutes	

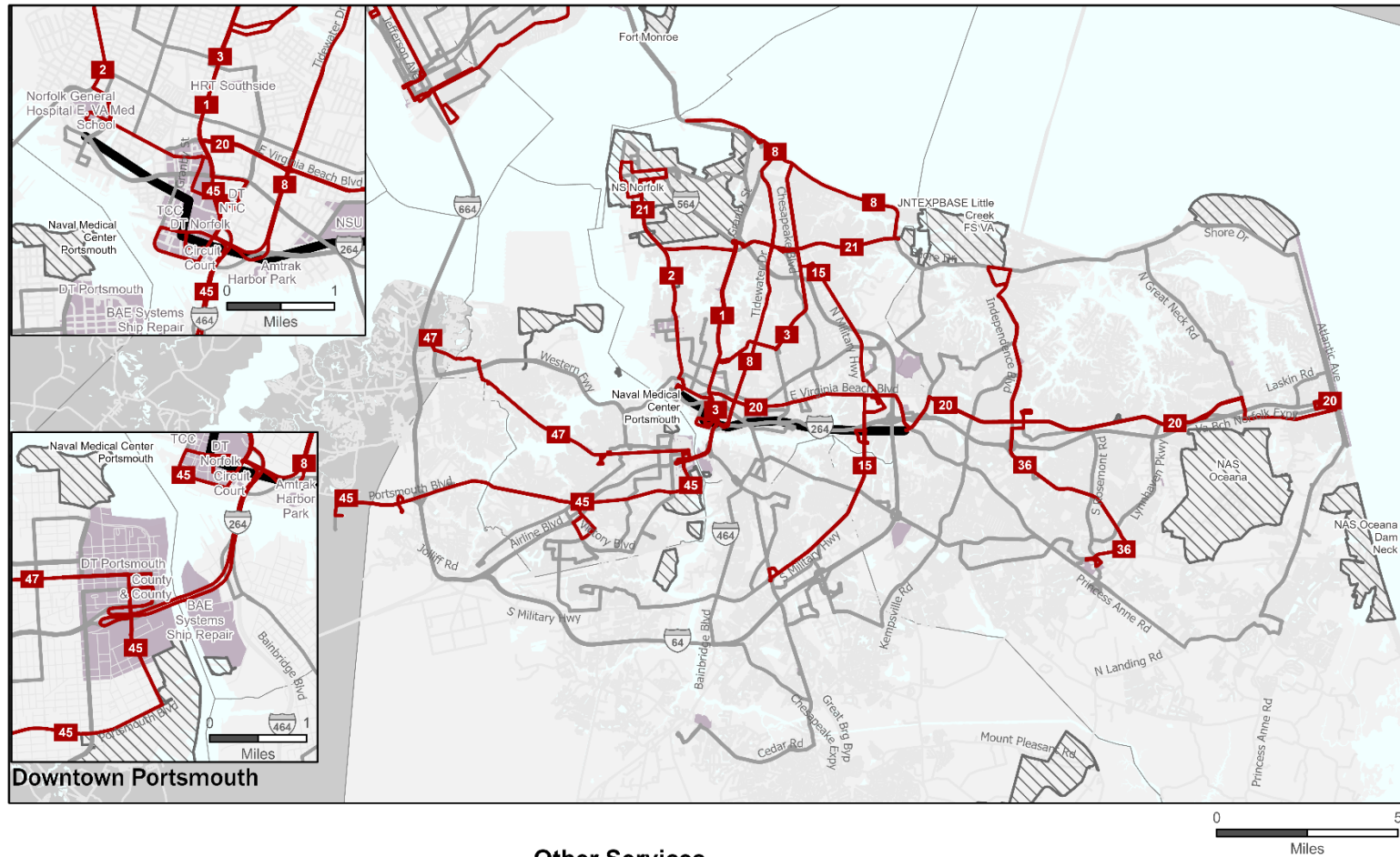
Figure 6-3: Regional Transit Program Regional Backbone Routes - Peninsula



PENINSULA: Hampton Roads Regional Transit Program Regional Backbone Routes



Figure 6-4: Regional Transit Program Regional Backbone Routes - Southside



Other Services

- Regional Backbone Routes
- Light Rail
- Other HRT Routes
- Ferry

SOUTHSIDE: Hampton Roads Regional Transit Program Regional Backbone Routes



6.4.2. Limited/Express

Regional Metro Area Express (MAX) routes and Peninsula Commuter Service (PCS) routes are also part of the Program, or RTS. These routes are shown in **Figure 6-5** and **Figure 6-6**. There are 14 existing PCS and MAX routes⁶ which fall within the Limited/Express route classification that provide interjurisdictional connections, offering limited stop and direct service to major employment centers (**Table 6-3**). Since these routes offer limited stop service designed to serve commuters traveling to and from work, the service design standards for service headway and span of service are based upon the demand and shift times of the employment centers.

There are several new MAX routes also being recommended for implementation over the next several years:

- **Route 962:** Commuter service between northern Norfolk, Hampton, and Newport News will be implemented in FY 2025
- **Route 970:** Commuter service between Newport News and Portsmouth will be implemented in FY 2023.
- **Route 975:** Commuter service between Newport News and Gloucester will be implemented in FY 2026.

This brings the total number of Limited/Express routes involved with the Program to 17. Additionally, other new potential MAX routes are still being considered. In the next annual TSP update, such potential new MAX routes will be explored, including service to Norfolk Naval Shipyard (Portsmouth).

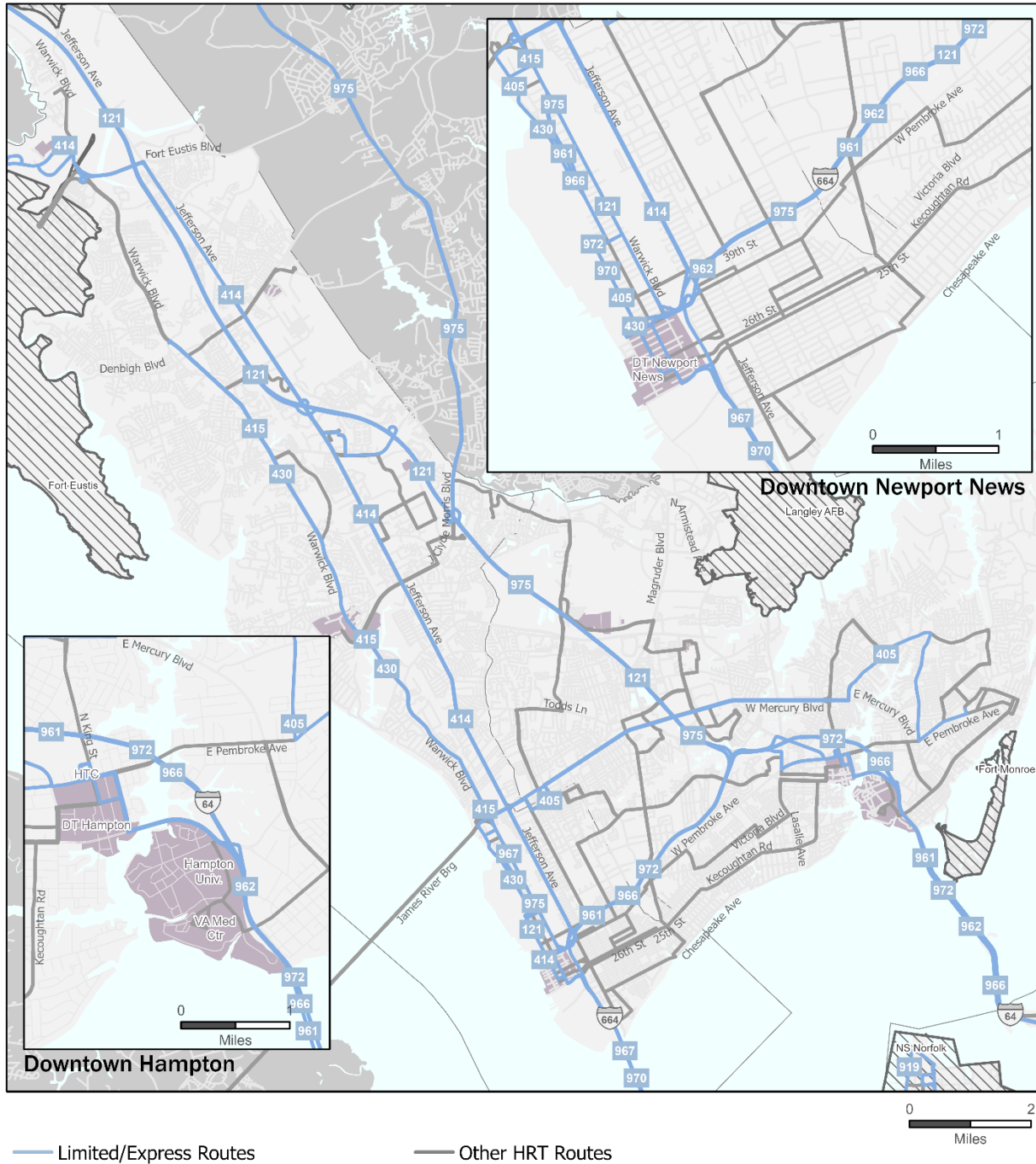
Table 6-3: Limited/Express Route Characteristics

Description	Criteria		
	Interjurisdictional	Population / Job Density	Route Directness
Bus service with limited stops connecting surrounding communities with downtown areas and other major employment sites or regional destinations, often via interstates. Some routes will operate as peak-period commuter service only. Typically accessed via park-and-ride lots at the residential end.	Can operate within a jurisdiction or cross jurisdictional boundaries.	Route serves major trip generators and/or collection points.	N/A

: Regional Transit Program Limited/Express Routes - Peninsula

⁶ Includes nine MAX routes: 121, 919, 922, 960, 961, 966, 967, 972, plus the new MAX Route 980 which is beginning service Fall 2021. Includes five PCS routes.

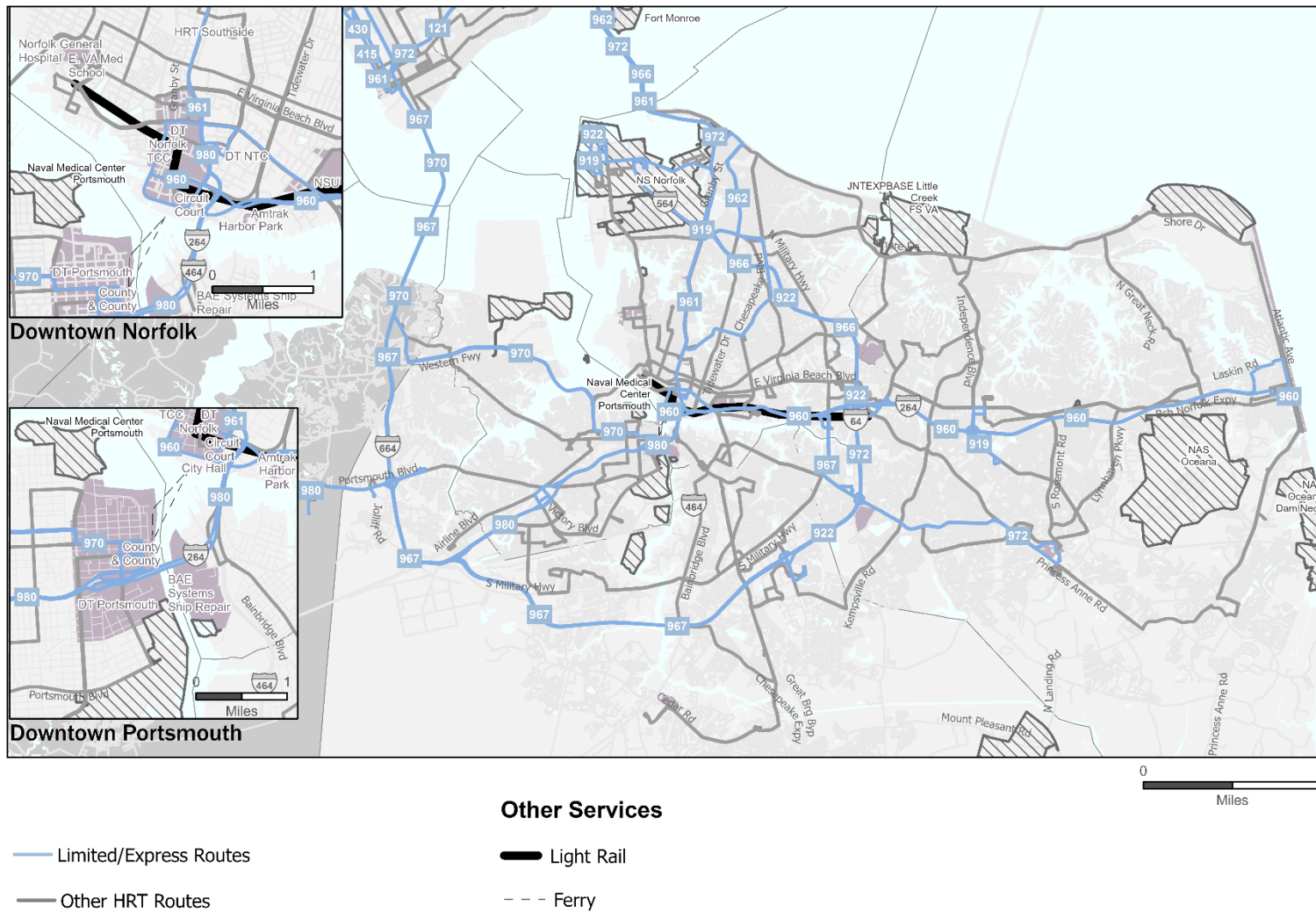
Figure 6-5: Regional Transit Program Limited/Express Routes - Peninsula



PENINSULA: Hampton Roads Regional Transit Program Limited/Express Routes



Figure 6-6: Regional Transit Program Limited/Express Routes - Southside



SOUTHSIDE: Hampton Roads Regional Transit Program Limited/Express Routes



6.5. Benefits and Outcomes

As outlined in this section, the Hampton Roads Regional Transit Program of services will:

- Improve access to and from job sites and workforce development sites across the region, increasing employment opportunities and improving economic opportunity for residents.
- Improve mobility options for residents across the region.
- Provide frequent, consistent, and reliable transit options across the region; improve the rider experience by limiting time spent at bus stops, enabling faster transfers, shortening end-to-end trip time, and allowing riders to make trips without relying on schedules; and enhance connections and transfers throughout the entire HRT system through high-frequency service on the Regional Backbone network.

These outcomes are consistent with the recommendations of the Regional Advisory Panel of HRT's *Transit Transformation Project* and the Guiding Principles unanimously approved by the TDCHR for improving a regional transit system. These principles include following regional standards to achieve a more effective bus network, prioritizing high-frequency services on a regional backbone system, and prioritizing connections across jurisdictions.

6.5.1. Regional Connectivity and Level of Service

Table 6-4 shows the jurisdictional connections and major destinations for each of the Regional Backbone routes, accounting for planned realignments where applicable and **Table 6-5** shows the same for MAX and PCS routes. More details about these routes can be found in **Section 6.6: Route Profiles**. The tables display the level of service for each route in terms of service hours: pre-RTS implementation service hours (FY 2020), anticipated FY 2023 service hours, and the estimated service hours under a full implementation according to the service design standards, wherein each route will meet or exceed those standards (FY 2032).

Table 6-4: Regional Backbone Major Destinations and Service Hours

Route	Planned Jurisdictional Connections and Major Destinations	FY 2020 Service Hours	Estimated FY 2023 Service Hours	Service Hours for Program Implementation
Route 1	Norfolk <ul style="list-style-type: none"> ■ Downtown Norfolk Transit Center ■ Evelyn T. Butts Avenue 	36,398	36,391	28,183
Route 2	Norfolk <ul style="list-style-type: none"> ■ Navy Exchange Mall ■ Downtown Norfolk Transit Center 	19,801	19,765	34,045
Route 3	Norfolk <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Evelyn T. Butts Avenue ■ Ocean View Avenue 	28,315	27,490	31,422
Route 8	Norfolk <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Evelyn T. Butts Avenue ■ Joint Expeditionary Base Little Creek 	16,980	16,773	58,928
Route 15	Chesapeake, Norfolk, and Virginia Beach <ul style="list-style-type: none"> ■ Robert Hall ■ Evelyn T. Butts Avenue ■ Military Highway Light Rail Station 	32,467	32,359	41,258
Route 20	Norfolk and Virginia Beach <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Newtown Road Light Rail Station ■ Virginia Beach Oceanfront 	56,053	56,586	88,118

Route	Planned Jurisdictional Connections and Major Destinations	FY 2020 Service Hours	Estimated FY 2023 Service Hours	Service Hours for Program Implementation
Route 21	Norfolk and Virginia Beach <ul style="list-style-type: none"> ■ Navy Exchange Mall ■ Joint Expeditionary Base Little Creek 	26,910	26,479	35,951
Route 36	Virginia Beach <ul style="list-style-type: none"> ■ Shore Drive / Pleasure House Road ■ Pembroke East ■ TCC Virginia Beach 	8,664	8,718	33,388
Route 45	Chesapeake, Norfolk, Portsmouth, and Suffolk <ul style="list-style-type: none"> ■ Downtown Norfolk Transit Center ■ Midtown Portsmouth ■ Victory Crossing ■ TCC Portsmouth ■ Amazon facility in Chesapeake ■ Amazon facility in Suffolk 	27,472	27,341	44,603
Route 47	Portsmouth and Suffolk <ul style="list-style-type: none"> ■ Downtown Portsmouth ■ Churchland 	16,050	15,804	24,759
Route 101	Hampton and Newport News <ul style="list-style-type: none"> ■ Downtown Newport News ■ Downtown Hampton 	11,313	14,731	16,433
Route 112	Hampton and Newport News <ul style="list-style-type: none"> ■ Ivy Avenue & 6th Street ■ Downtown Newport News ■ Patrick Henry Mall ■ Lee Hall 	22,286	50,183	58,157
Route 114	Hampton and Newport News <ul style="list-style-type: none"> ■ Newmarket ■ Peninsula Town Center 	19,614	34,447	41,851

Table 6-5: Limited/Express Major Destinations and Service Hours

Route	Planned Jurisdictional Connections and Major Destinations	FY 2020 Service Hours	Estimated FY 2023 Service Hours	Service Hours for Program Implementation
Route 121	Newport News <ul style="list-style-type: none"> ■ Newport News Transit Center ■ Williamsburg Transportation Center 	973	973	973
Route 403	Hampton and Newport News <ul style="list-style-type: none"> ■ Buckroe Shopping Center ■ Newport News Shipbuilding 	211	378	461
Route 405	Hampton and Newport News <ul style="list-style-type: none"> ■ Newport News Transit Center ■ Newport News Shipbuilding ■ Buckroe Shopping Center 	470	752	893
Route 414	Hampton and Newport News <ul style="list-style-type: none"> ■ Newport News Transit Center ■ Newport News Shipbuilding ■ Jefferson/Oakland 	1,704	1,397	1,397
Route 415	Hampton and Newport News <ul style="list-style-type: none"> ■ Newport News Transit Center ■ Newport News Shipbuilding ■ Denbigh 	178	313	380

Route	Planned Jurisdictional Connections and Major Destinations	FY 2020 Service Hours	Estimated FY 2023 Service Hours	Service Hours for Program Implementation
Route 430	Hampton and Newport News <ul style="list-style-type: none"> ■ Denbigh Fringe ■ Newport News Transit Center ■ Newport News Shipbuilding 	493	747	874
Route 919	Norfolk and Virginia Beach <ul style="list-style-type: none"> ■ Silverleaf Part & Ride ■ Naval Station Norfolk 	1,532	1,474	1,445
Route 922	Chesapeake, Norfolk, and Virginia Beach <ul style="list-style-type: none"> ■ Greenbrier Mall Park & Ride ■ Indian River Park & Ride ■ Naval Station Norfolk 	1,773	1,508	1,375
Route 960	Norfolk and Virginia Beach <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Virginia Beach Town Center ■ Virginia Beach Oceanfront 	10,408	10,436	11,680
Route 961	Hampton, Newport News, and Norfolk <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Downtown Hampton ■ Downtown Newport News 	20,483	20,329	20,329
Route 962 (service begins FY 2025)	Hampton, Newport News, and Norfolk <ul style="list-style-type: none"> ■ Evelyn T. Butts Avenue ■ Downtown Hampton ■ Downtown Newport News 	-	-	13,104
Route 966	Newport News and Virginia Beach <ul style="list-style-type: none"> ■ Silverleaf Park and Ride ■ Newport News Transit Center ■ Newport News Shipbuilding 	1,067	1,340	1,485
Route 967	Chesapeake, Newport News, Norfolk, and Virginia Beach <ul style="list-style-type: none"> ■ Downtown Newport News ■ Greenbrier Mall ■ Military Highway Light Rail Station ■ Newport News Shipbuilding 	3,607	3,696	3,696
Route 970 (service begins FY 2023)	Newport News and Portsmouth <ul style="list-style-type: none"> ■ Newport News Shipbuilding ■ Downtown Portsmouth 	-	1,154	1,730
Route 972	Virginia Beach and Newport News <ul style="list-style-type: none"> ■ Downtown Newport News ■ Newport News Shipbuilding ■ TCC Virginia Beach 	594	904	1,060
Route 975 (service begins FY 2026)	Newport News and Gloucester <ul style="list-style-type: none"> ■ Newport News Shipbuilding ■ Gloucester 	-	-	1,813
Route 980 (service begins FY 2022)	Norfolk, Chesapeake, Portsmouth, and Suffolk <ul style="list-style-type: none"> ■ Downtown Norfolk ■ Downtown Portsmouth ■ Amazon facility in Chesapeake ■ Amazon facility in Suffolk 	-	1,171	1,757

6.5.2. Program Factors, Objectives, and Metrics

This section further documents positive linkages of Program investments to factors prescribed in the Virginia Code (§ 33.2-2600.1): economic development potential, employment opportunities, mobility, environmental sustainability, and quality of life metrics. **Table 6-6** links the five factors specified in the law, with each factor associated with related objectives and metrics. The objectives represent the outcome that can be anticipated upon full Program implementation.

Table 6-6: Program Investment Factors, Objectives, and Metrics

Factor	Objective	Metrics
Economic Development Potential	Support businesses and support future economic development at local level.	<ul style="list-style-type: none"> ■ Integration with and support for local comprehensive plans, transportation plans, and local or regional economic development strategies. ■ Number of economically distressed areas served.
Employment Opportunities	Provide access to and from jobs and workforce development sites.	<ul style="list-style-type: none"> ■ Number of jobs with access to transit.
Mobility	Provide consistent and reliable transit options across the region.	<ul style="list-style-type: none"> ■ Number of residents with access to transit. ■ Number of jobs and residents with access to high-frequency service with 15-minute headways in the peak period. ■ Access to multi-modal transit options.
Environmental Sustainability	Contribute to improved air quality and reduction of energy use.	<ul style="list-style-type: none"> ■ Equivalent VMT reduction (based on avg. trip length) to Fleet Capacity (multiplied by existing system efficiency of passengers per revenue hour)
Quality of Life	Improve transit travel time and average wait for transit; Provide increased access to transit for disadvantaged populations (low-income, minority, or limited English proficiency).	<ul style="list-style-type: none"> ■ Transit travel time. ■ Average wait for transit. ■ Transit coverage and access to high-frequency service for disadvantaged populations (low-income, minority, or limited English proficiency).

6.5.3. Baseline Analyses

The Regional Backbone and Limited/Express routes are measured against a subset of the metrics in **Table 6-6** to determine how best to prioritize the use of Hampton Roads Regional Transit Fund moneys in the phased implementation of the Program. The results of these analyses are discussed below.

Employment Access to Transit

Access to **Employment Opportunities** is a primary consideration for HRT when considering where to place transit service. The Regional Backbone and Limited/Express route improvements will improve access to and from job sites and workforce development sites across the region, increasing employment opportunities and improving economic opportunity for residents. Employment access to transit measures the number of jobs located within walking distance of the Regional Backbone routes and within two miles of the Limited/Express routes' stops. Employment data used in this analysis is from the 2018 Census Longitudinal Employer-Household Dynamics dataset (LEHD).

For Regional Backbone routes (**Table 6-7**), employment was measured within one-half mile of segments with high-frequency service (15-minute headways in the peak periods).⁷ For the routes that operate with a short turn during the peak periods (Routes 3, 45, 47, and 112), 15-minute service is offered on the short turn and 30-minute service is offered along the rest of the route. The segments that have 30-minute service were analyzed with a one-quarter

⁷ As with other metrics in Table 6-6, this methodology is consistent with Virginia's MERIT (Making Efficient and Responsible Investments in Transit) program when evaluating capital projects for funding; HRT is adapting MERIT metrics where applicable for use with Hampton Roads Regional Transit Program.

mile buffer along that segment, with the short turn measured at one-half mile as customers are more willing to walk slightly further for higher frequency service. The Regional Backbone routes which provide access to the highest number of jobs are, in order, Route 20, Route 2, and Route 45.

Table 6-7: Employment Access to Regional Backbone Routes

Route	Employment Within 1/4 Mile (for segments that have 30-minute service)	Employment Within 1/2 Mile	Total Employment Access to Regional Backbone Routes
Route 1	-	43,722	43,722
Route 2	-	60,786	60,786
Route 3	577	39,974	40,551
Route 8	-	44,451	44,451
Route 15	-	39,227	39,227
Route 20	-	99,307	99,307
Route 21	-	11,640	11,640
Route 36	-	28,768	28,768
Route 45	2,260	52,440	54,700
Route 47	913	20,023	20,936
Route 101	-	26,102	26,102
Route 112	5,311	44,297	49,608
Route 114	-	28,636	29,636

For Limited/Express routes (**Table 6-8**), the analysis was conducted at the stops rather than along the full alignment as these routes make few stops but travel great distances. A two-mile buffer was used to capture the average distance a commuter would be willing to travel to their workplace via other modes once disembarking from the Limited/Express route. Due to the unique nature of the two largest employment areas in the region, Naval Station Norfolk and Newport News Shipbuilding, Limited/Express routes which serve either of those locations were allotted the full count of employment of these facilities based on the assumption that even if the stop buffer did not encompass the full facility, a commuter would still have access to all of those jobs via other transit options. The PCS/MAX routes which provide access to the highest number of jobs are, in order, Route 961, Route 967, and the new Route 970.

Table 6-8: Employment Access to Limited/Express Routes

Route	Employment Within Two Miles of Stops	Employment at Naval Station Norfolk	Employment at Newport News Shipbuilding	Total Employment Access to Limited/Express Routes
Route 121	131,184	-	15,380	146,564
Route 403	131,084	-	15,380	146,464
Route 405	147,291	-	15,380	162,671
Route 414	161,010	-	15,380	176,390
Route 415	147,291	-	15,380	162,671
Route 430	151,291	-	15,380	166,671
Route 919	42,061	73,000	-	115,061
Route 922	73,400	73,000	-	146,400
Route 960	173,154	-	-	173,154
Route 961	233,276	-	15,380	248,656
Route 962	116,632	-	-	116,632

Route	Employment Within Two Miles of Stops	Employment at Naval Station Norfolk	Employment at Newport News Shipbuilding	Total Employment Access to Limited/Express Routes
Route 966	124,946	-	15,380	140,326
Route 967	187,950	-	15,380	203,330
Route 970	172,632	-	15,380	188,012
Route 972	132,387	-	15,380	147,767
Route 975	61,064	-	15,380	76,444
Route 980	108,407	-	-	108,407

Residential Access to Transit

Mobility is another primary consideration for increased and improved transit service. The objective here is to provide consistent and reliable transit options to many people across the region. The measure of this factor is the number of residents with access to transit.

The Regional Backbone and Limited/Express route improvements will improve mobility options for residents across the region. Residential access to transit measures the number of people living within walking distance of the Regional Backbone routes and within two miles of the Limited/Express routes' stops. Population data for this analysis is from the American Community Survey (ACS) 2019 Five-Year estimates.

Following a similar method to the analysis for employment, for Regional Backbone routes (**Table 6-9**), population was measured within one-half mile of segments with high-frequency service (15-minute headways in the peak periods). For the routes that operate with a short turn during the peak periods (Routes 3, 45, 47, and 112), 15-minute service is offered on the short turn and 30-minute service is offered along the rest of the route. The segments that have 30-minute service were analyzed with a one-quarter mile buffer along that segment, with the short turn measured at one-half mile as customers are more willing to walk slightly further for higher frequency service. Regional Backbone routes which provide access to the highest number of residents are, in order, Route 20, Route 8, and Route 36.

Table 6-9: Population Access to Regional Backbone Routes

Route	Population Within 1/4 Mile	Population Within 1/2 Mile	Total Population Access to Regional Backbone Routes
Route 1	-	47,127	47,127
Route 2	--	51,532	51,532
Route 3	7,739	51,638	59,377
Route 8	-	79,935	79,395
Route 15	-	48,872	48,872
Route 20	-	94,504	94,504
Route 21	-	51,969	51,969
Route 36	-	64,246	64,246
Route 45	6,747	34,400	41,148
Route 47	4,025	25,761	29,785
Route 101	-	32,593	32,593
Route 112	9,732	50,326	60,059
Route 114	-	33,960	33,960

For Limited/Express routes (**Table 6-10**), the analysis was conducted around the stops rather than along the full alignment as these routes make few stops but travel great distances. A two-mile buffer was used to capture the average distance a commuter would be willing to travel from their home to board a commuter bus, usually at a

park-and-ride lot. The results of these analyses are shown in **Table 6-10**. The Limited/Express routes which provide access to the highest number of employed residents are, in order, Route 961, Route 960, and Route 414.

For Regional Backbone routes, total population was utilized, while for Limited/Express routes, employed population was utilized. The market for commuter trips on Limited/Express routes is a subset of the whole population (e.g., commuters who are traveling to and from work), whereas trips on the Regional Backbone network serve all kinds of destinations throughout the day and week.

Table 6-10: Employed Population Access to Limited/Express Routes

Route	Employed Population Within Two Miles of Limited/Express Routes
Route 121	49,441
Route 403	76,202
Route 405	76,546
Route 414	109,098
Route 415	76,546
Route 430	84,495
Route 919	89,571
Route 922	98,694
Route 960	118,077
Route 961	152,806
Route 962	71,652
Route 966	64,252
Route 967	95,720
Route 970	54,963
Route 972	86,952
Route 975	26,611
Route 980	66,599

Access to High-Frequency Transit

With **Mobility** as a primary consideration with the objective of providing consistent and reliable transit options across the region, another important metric is the combined number of jobs and residents with access to high-frequency services. High-frequency service is defined as service having 15-minute headways in the peak period. This was another area targeted for improved regional transit service as part of HRT's *Transit Transformation Project* and the Transit Strategic Plan.

The high-frequency service offered by the Regional Backbone routes will provide consistent and reliable transit options across the region and improve mobility. Access to high-frequency transit was determined based on the residents and jobs within a half-mile of Regional Backbone routes as described in the **Employment Access to Transit** section and the **Residential Access to Transit** section. The results of this analysis are shown in **Table 6-11**. The routes with the with the highest combined population and employment access to high-frequency transit are Route 2, Route 8, and Route 20, which all serve over 110,000 people and jobs. Route 8 and Route 20 serve a larger population than the other Regional Backbone routes with high-frequency service, while Route 2 and Route 20 serve the greatest number of jobs with high-frequency service.

Table 6-11: Regional Backbone Routes - Population and Employment Access Within a Half-Mile

Route	Population	Employment	Combined Population & Employment
Route 1	47,127	43,722	90,849
Route 2	51,532	60,786	112,318
Route 3	59,377	40,551	99,928
Route 8	79,395	44,451	123,846
Route 15	48,872	39,227	88,099
Route 20	94,504	99,307	193,811
Route 21	51,969	11,640	63,609
Route 36	64,246	28,768	93,014
Route 45	41,148	54,700	95,848
Route 47	29,785	20,936	50,721
Route 101	32,593	26,102	58,695
Route 112	60,059	49,608	109,667
Route 114	33,960	29,636	63,596

Multi-Modal Transit Connections

Access to multi-modal transit options is another primary consideration for the implementation of improved and increased transit services. Implementing the high-frequency network will not only increase levels of service but will enhance connections throughout the entire HRT system. The increased frequency plus the standardization of spans across the region will result in more consistent and reliable transfer opportunities for all.

Table 6-12 shows the transit connections each Regional Backbone route provides. The results are broken down into different types of HRT service classifications, as well as other non-HRT services. Route 20, Route 101, and Route 112 have the highest number of connections to all types of HRT routes. Routes 2, 8, 15, 20, and 45 connect to The Tide light rail system. Routes 45, 47, and 112 connect to neighboring transit systems.

Table 6-12: Multi-Modal Transit Connections

Route	Number of Connections to Limited/Express Routes	Number of Connections to Other Regional Backbone Routes	Number of Connections to Local Priority and Coverage Routes	Total Number of Connections to Other HRT Routes	Connection to Light Rail	Connection to Other Systems
Route 1	4	7	9	20	-	-
Route 2	5	6	8	19	Yes	-
Route 3	4	7	8	19	-	-
Route 8	4	7	9	20	Yes	-
Route 15	4	5	9	18	Yes	-
Route 20	3	7	17	27	Yes	-
Route 21	3	5	3	11	-	-
Route 36	3	1	8	12	-	-
Route 45	5	6	10	21	Yes	Suffolk
Route 47	1	1	3	5	-	Suffolk
Route 101	14	2	9	25	-	-
Route 112	13	2	9	24	-	WATA
Route 114	9	2	10	21	-	-

Average Wait for Transit

Time is a valuable commodity for Hampton Roads commuters. The stated objective for the **Quality of Life** factor is to improve transit travel time and average wait times for transit, and to provide increased access to transit for disadvantaged populations (low-income, minority, or limited English proficiency). Average wait for transit is a useful metric for this factor.

Reducing wait time on the Regional Backbone routes will improve quality of life for HRT riders by limiting time spent at outdoor bus stops, enabling faster transfers, shortening end-to-end trip time, and allowing riders to make trips without relying on schedules. The average wait time for transit is measured as half the time in between bus arrivals, or half the headway, for each route. **Table 6-13** shows the current and planned average wait time for the peak, midday, and evening weekday periods. For routes with short turn service where effective headways are shorter, the average wait time for the short turn segment is shown. Under the planned service in the Program, many routes would have wait times cut in half, with all Regional Backbone average wait times at 7.5 minutes during peak periods, either 7.5 or 15 minutes during the midday, and 15 minutes during the evening.

Table 6-13: Regional Backbone Average Wait Time

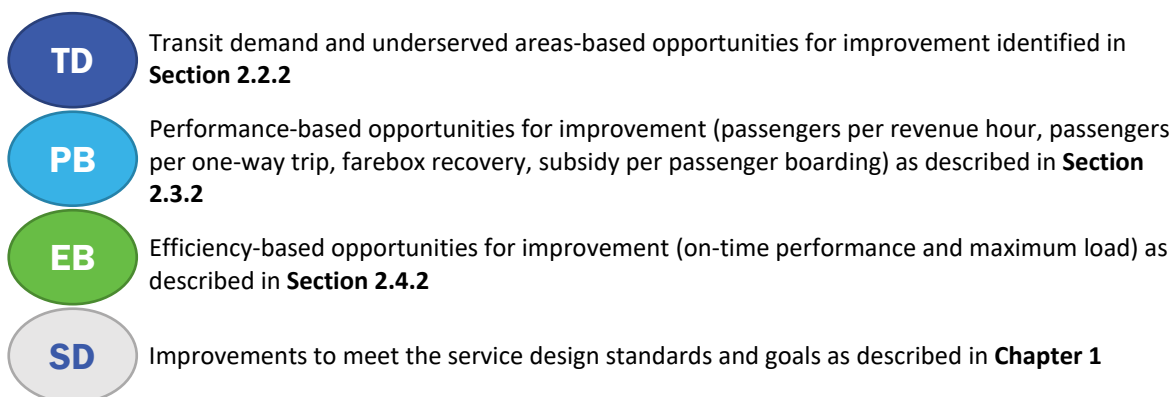
Route	Weekday Peak		Weekday Midday		Weekday Evening	
	Current average wait (mins)	New average wait (mins)	Current average wait (mins)	New average wait (mins)	Current average wait (mins)	New average wait (mins)
Route 1	7.5	7.5	15.0	7.5	15.0	15.0
Route 2	15.0	7.5	15.0	7.5	15.0	15.0
Route 3	7.5	7.5	15.0	7.5	15.0	15.0
Route 8	15.0	7.5	15.0	7.5	15.0	15.0
Route 15	7.5	7.5	15.0	7.5	15.0	15.0
Route 20	7.5	7.5	15.0	7.5	15.0	15.0
Route 21	15.0	7.5	15.0	7.5	15.0	15.0
Route 36	15.0	7.5	30.0	15.0	30.0	15.0
Route 45	7.5	7.5	15.0	15.0	15.0	15.0
Route 47	7.5	7.5	15.0	15.0	15.0	15.0
Route 101	17.5	7.5	17.5	15.0	30.0	15.0
Route 112	15.0	7.5	15.0	7.5	15.0	15.0
Route 114	15.0	7.5	15.0	7.5	30.0	15.0

HRT will carefully track performance and build upon this baseline assessment of program factors, objectives, and metrics used for the Hampton Roads Regional Transit Program as it is implemented.

6.6. Route Profiles

The route profiles which follow contain:

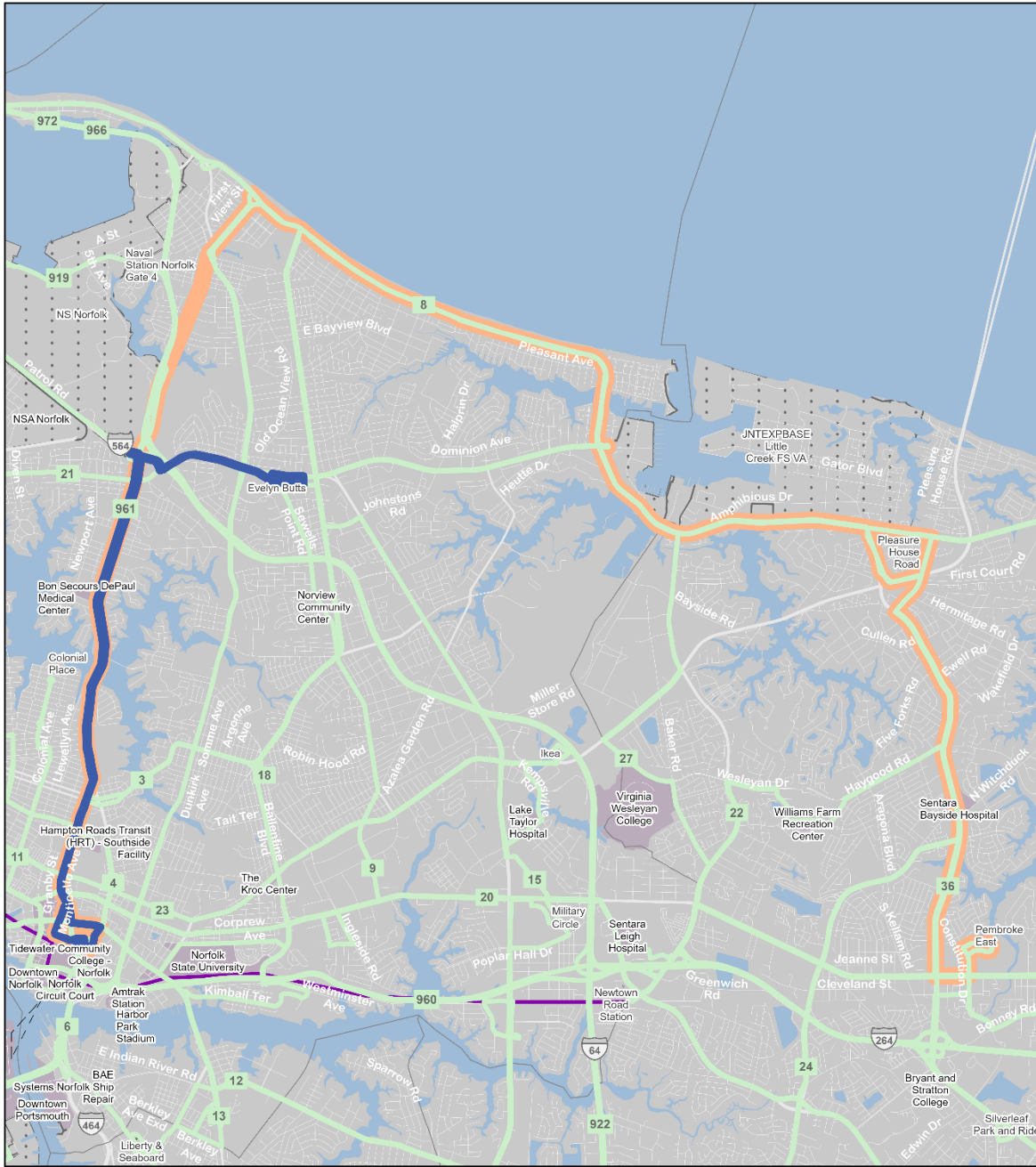
- A description of the service changes.
- The justifications for the service changes, including:
 - Key Performance Indicators, which are measures of a route’s performance, are discussed when relevant to a service change (full performance analysis data can be found in **Chapter 2, Section 2.3**).
 - Some justifications also include reference to analyses that were part of the analysis of transit demand and underserved area opportunities for improvement from **Chapter 2, Section 2.2.2**.
 - For each of the justifications, icons provide quick reference as to the types of justifications included for each route:



- A table showing the route’s service classification.
- A table showing the origins and destinations as well as the jurisdictions served, comparing existing service to the planned service.
- A table comparing level of service—span and headway—between the existing service and the service targets⁸ for the route:
 - On weekdays the periods shown are approximately associated with the following times, but would vary based on demand:
 - **Early** - Before 6:00 a.m.
 - **AM Peak** - 6:00 a.m. to 9:00 a.m.
 - **Midday** - 9:00 a.m. to 3:00 p.m.
 - **PM Peak** - 3:00 p.m. to 6:00 p.m.
 - **Evening** - 6:00 p.m. to 11:00 p.m.
 - **Late Night** - After 11:00 p.m.
 - On weekends the periods shown are approximately associated with the following times:
 - **Base** - 8:00 a.m. – 6:00 p.m.
 - **Non-Base** - 6:00 a.m. – 8:00 a.m. and 6:00 p.m. – 9:00 p.m.
 - **Early/Late** - before 6:00 a.m. and after 9:00 p.m.
- A table showing the phased implementation across the ten-year period of route alignment changes, span of service changes, and frequency of service changes.
- A place for any special notes that apply to the route.
- A map showing the route, other related routes, eliminated sections of the route (if applicable), and other relevant transportation information.



⁸ The service targets describe the span and frequency a route would need to achieve in order to fulfill the service design standards for its service classification. Not all routes’ service targets are met due to individual cost constraints of each of the jurisdictions.




Route 1




Route 1

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 1

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk Transit Center / Pembroke East	Downtown Norfolk Transit Center / Evelyn T. Butts Avenue
Jurisdictions	Norfolk, Virginia	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		4:44 a.m. - 1:30 a.m.	4:44 a.m. - 1:30 a.m.
Saturday		4:40 a.m. - 1:31 a.m.	4:40 a.m. - 1:30 a.m.
Sunday		5:37 a.m. - 1:30 a.m.	4:40 a.m. - 1:30 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15
	PM Peak	15	15
	Evening	40	30
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	15
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- Route 1 will operate along its current alignment between the Downtown Norfolk Transit Center (DNTC) and Wards Corner. It will be realigned at Wards Corner and turn onto Little Creek Boulevard to service Evelyn T. Butts. Service north and east of Evelyn T. Butts will be discontinued on Route 1; however, much of the service along the discontinued segments will be covered by the realigned Routes 8, 27, and 36.
- Existing short turns on Route 1 will be eliminated so that all trips operate the full length of the route.
- Weekday span of service remains the same as current Route 1 service. On weekdays Route 1 will operate with 15-minute service during the AM peak, midday, and PM peak periods. In the early and evening periods on weekdays service will be provided at half hour headways. The route will operate hourly after 11:00 p.m. on weekdays.
- Saturday service span will not change and 15-minute service will be provided from 8:00 a.m. to 6:00 p.m.. Sunday span of service and headways will be improved to match the increase of service on Saturdays.



Justification

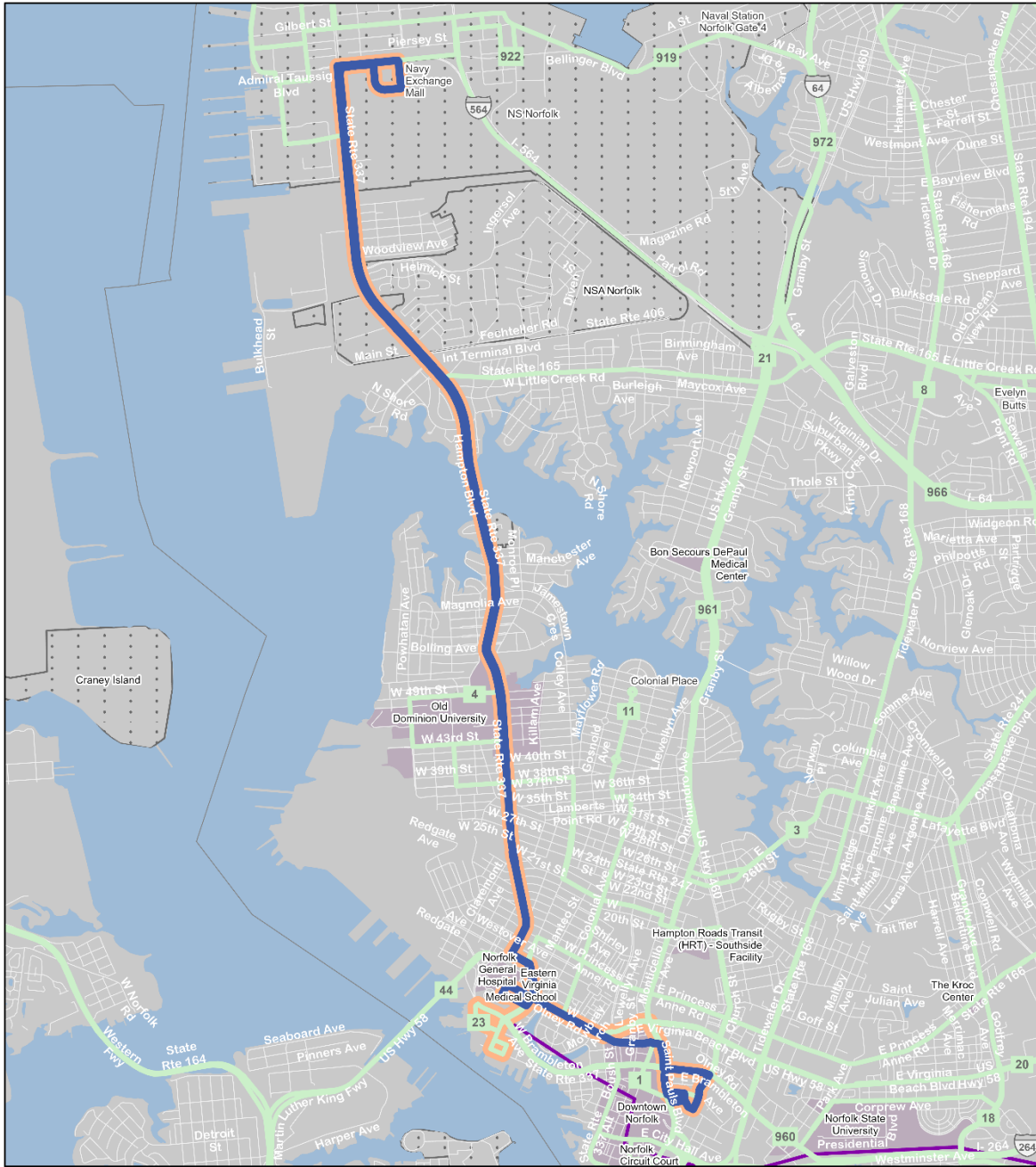
- Simplifying the route by shortening it and eliminating short turns will standardize service levels across the entire route and will create a simpler schedule and map for customers to understand.
- This corridor warrants 15-minute service on weekdays in the peak periods and midday due to the transit market demand and activity centers served along the alignment (Granby Street is a key north-south corridor in Norfolk south of Little Creek Road). This corridor has a high concentration of areas with opportunities for improvement of service according to the multimodal service index analysis from **Chapter 2, Section 2.2.2**.
- The service levels for Route 1 meet the service standards defined for Regional Backbone routes.

Route 1

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 1 will operate along its current alignment between the Downtown Norfolk Transit Center (DNTC) and Wards Corner. It will be realigned at Wards Corner and turn onto Little Creek Boulevard to service Evelyn T. Butts. Service north and east of Evelyn T. Butts will be discontinued on Route 1; however, much of the service along the discontinued segments will be covered by the realigned Routes 8, 27, and 36. Existing short turns on Route 1 will be eliminated so that all trips operate the full length of the route. Improve Sunday span to 4:40 a.m. to 1:30 a.m.. Improve weekday evening and Sunday non-base headways to 30 minutes. Improve weekday midday, Saturday base headways, and Sunday base headways to 15 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 2





Route 2

Focus Route


-  Planned Alignment
-  Existing Alignment


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 2

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Navy Exchange Mall / Downtown Norfolk Transit Center	Navy Exchange Mall / Downtown Norfolk Transit Center
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		4:51 a.m. - 11:42 p.m.	4:51 a.m. - 1:00 a.m.
Saturday		5:11 a.m. - 1:09 a.m.	5:11 a.m. - 1:00 a.m.
Sunday		5:28 a.m. - 12:20 a.m.	5:11 a.m. - 1:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	49	30
	Late Night	60	60
Saturday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 2 will be realigned to travel on Hampton Boulevard, Redgate Avenue, Colley Avenue, and Olney Avenue to streamline the service. The realigned Route 2 will be more direct compared to its existing alignment. Route 2 will still serve Norfolk General Hospital via Olney Avenue and Fairfax Avenue. Route 23 will continue to serve the Fort Norfolk area where Route 2 will no longer serve. Route 2 will no longer service Virginia Beach Boulevard (covered by Route 11).
- The weekday span will be improved to end at 1:00 a.m.. Headways will be improved to 15 minutes during the weekday peak periods and midday period and to 30 minutes during weekday evening period.
- Weekend service will be provided between 5:11 a.m. and 1:00 a.m. and will be offered at half hour intervals through much of the service day.



Justification

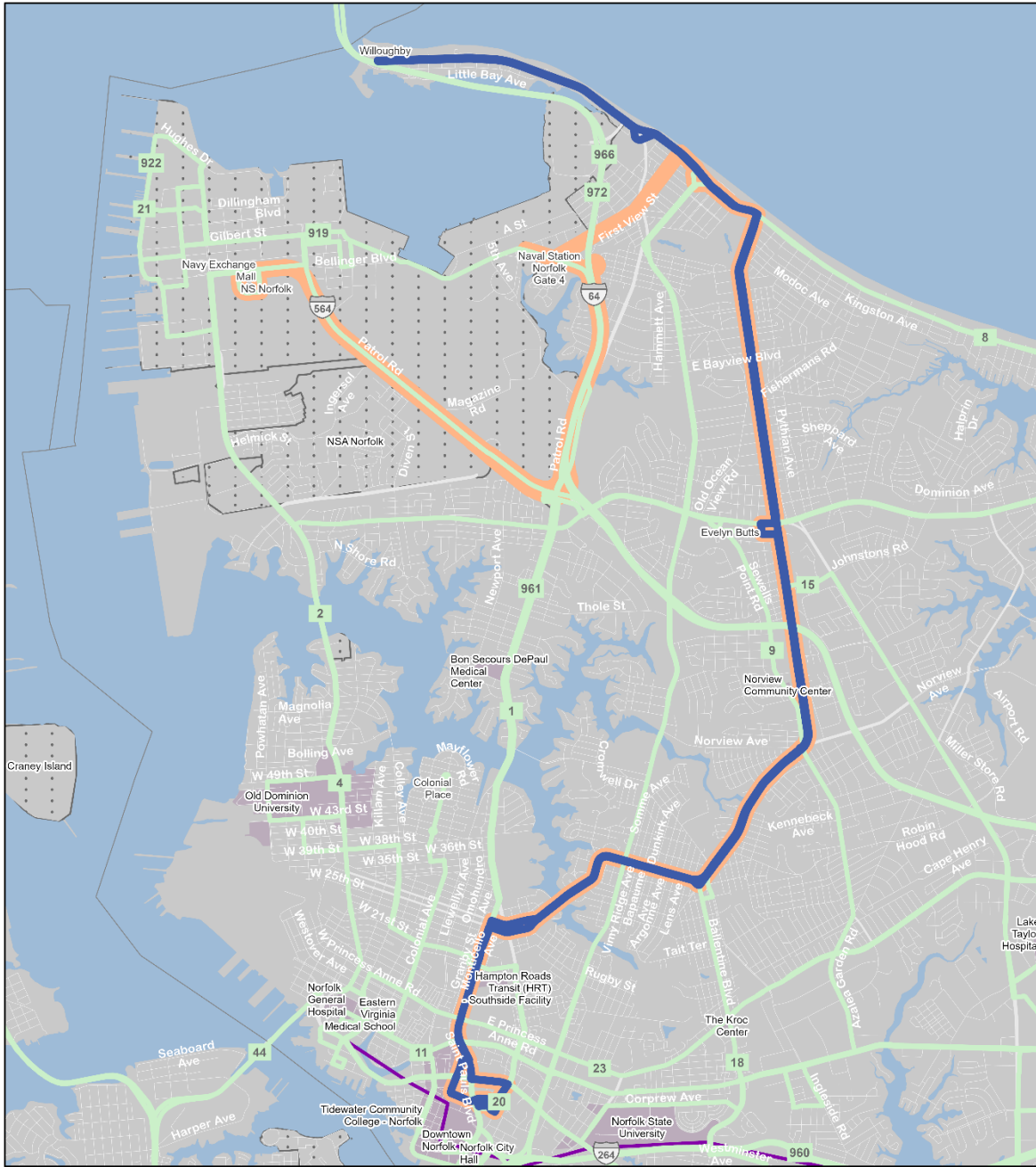
- The multimodal service index analysis from **Chapter 2, Section 2.2.2**, reveals areas served by Route 2 as major activity generators. Providing more direct service and shorter headways will improve this route and could attract more riders.
- The service levels for Route 2 meet the service standards defined for Regional Backbone routes.

Route 2

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	Route 2 will be realigned to travel on Hampton Boulevard, Redgate Avenue, Colley Avenue, and Olney Avenue in order to streamline the service through Downtown Norfolk. The realigned Route 2 will be more direct compared to its existing alignment. Route 2 will still serve Norfolk General Hospital via Olney Avenue and Fairfax Avenue. Route 23 will continue to serve the Fort Norfolk area where Route 2 will no longer serve. Route 2 will no longer service Virginia Beach Boulevard (covered by Route 11). Improve weekday span to 4:51 a.m. to 1:00 a.m. and Saturday and Sunday span to 5:11 a.m. - 1:00 a.m.. Improve weekday peak and midday headways to 15 minutes. Improve weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base headways to 30 minutes.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 3




Route 3

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 3

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Naval Station Norfolk	Downtown Norfolk / Evelyn T. Butts Avenue / Ocean View Avenue
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		4:51 a.m. - 1:27 a.m.	4:51 a.m. - 1:27 a.m.
Saturday		5:21 a.m. - 1:27 a.m.	5:21 a.m. - 1:34 a.m.
Sunday		5:59 a.m. - 12:31 p.m.	5:21 a.m. - 1:34 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	15 / 30
	PM Peak	15	15 / 30
	Evening	49	30 / 60
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	60	60

Note

This route's existing service operates with regular short turns. Existing Friday service ends later. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the Service Changes bullets.

Service Changes

- The northern end of Route 3 will be realigned to serve Ocean View Avenue to Willoughby (covering a portion of the eliminated Route 5), providing a one-seat ride between Willoughby and Downtown Norfolk. Navy Exchange Mall will no longer be served via Route 3. To reach the Navy Exchange Mall passengers may transfer at Evelyn T. Butts to Route 21.
- On weekdays during the peak periods and midday period service will operate on a short turn between DNTC and Evelyn T. Butts every 15 minutes. During the early and evening time periods the short turn service will operate every half hour. Service to Willoughby will be hourly in the early and evening periods, and during the peak periods and midday it will increase to half hour headways. Hourly service will be offered the full length of the route from Willoughby to DNTC during the late night period. Route 3 will maintain its existing weekday span.
- Weekend service will operate every half hour between 6:00 a.m. and 9:00 p.m. from Willoughby to DNTC. In the non-base weekend period, service will operate every half hour on the short turn between Evelyn T. Butts and DNTC, and hourly along the full length of the route. In the early/late period hourly service will be offered on the full length of the route. Span of service on Sunday will be expanded to match Saturday.



Justification

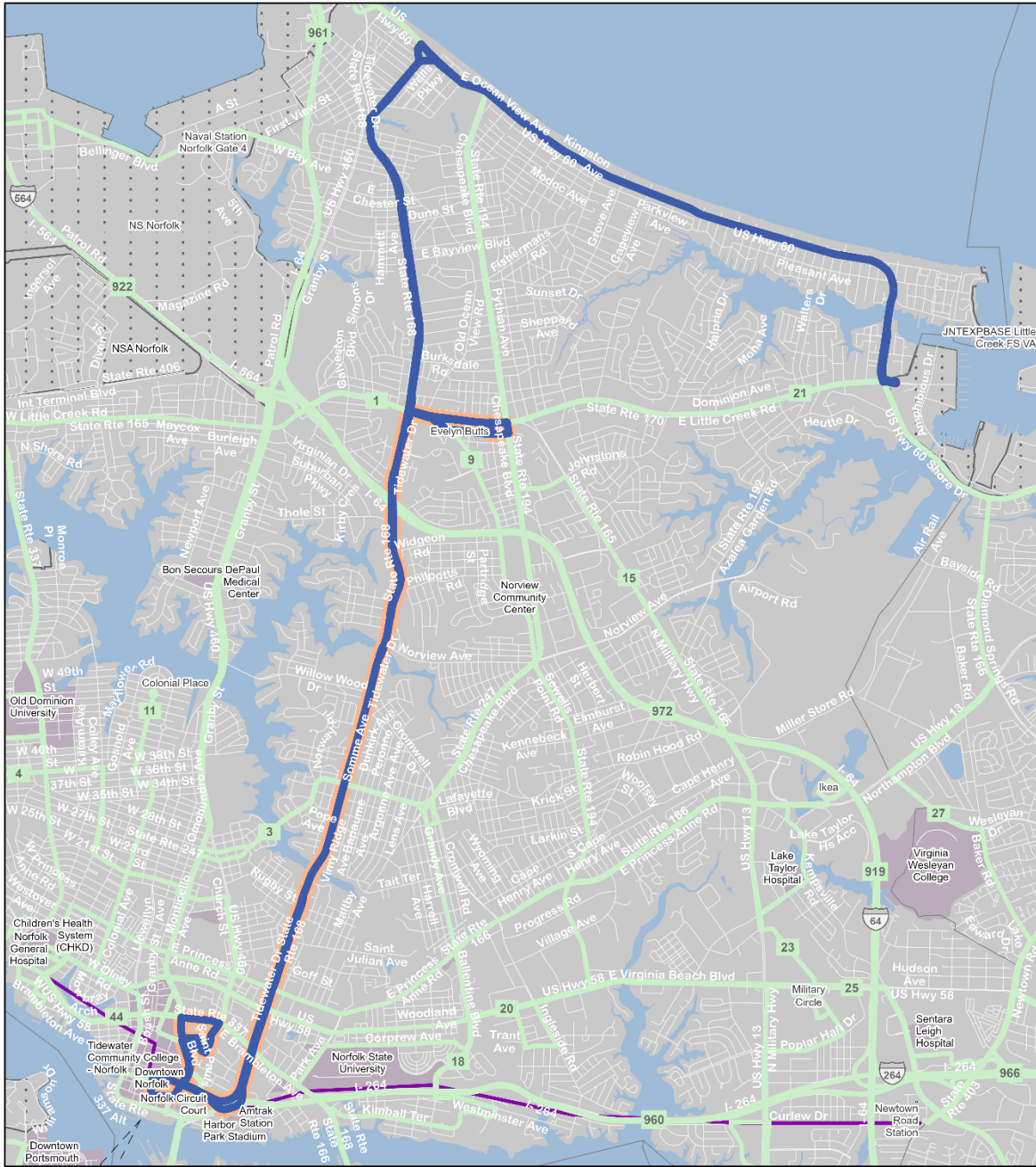
- Route 3's underperformance on on-time performance warrants a change in service in an effort to make the route operate more efficiently: its on-time performance is 59 percent, well short of the benchmark of 85 percent.
- Shortening headways on the weekend should encourage additional service usage.
- Service to Willoughby, which is currently offered every hour during weekday periods, will now be offered every half hour during the peak periods, which should help encourage additional service usage.
- The service levels for Route 3 meet the service standards defined for Regional Backbone routes.

Route 3

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	No changes.			
FY 2025	The northern end of Route 3 will be realigned to serve Ocean View Avenue to Willoughby (covering a portion of the eliminated Route 5), providing a one-seat ride between Willoughby and Downtown Norfolk. Navy Exchange Mall will no longer be served via Route 3. To reach the Navy Exchange Mall passengers may transfer at Evelyn T. Butts to Route 21. Improve Sunday span to 5:21 a.m. to 1:34 a.m.. Improve weekday midday headway on the short turn to 15 minutes. Improve weekday evening headway on the short turn to 30 minutes. Improve Sunday base headway to 30 minutes on the full route and Sunday non-base headway to 30 minutes on the short turn.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 8





Route 8

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 8

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Evelyn T. Butts Avenue	Downtown Norfolk / Evelyn T. Butts Avenue / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
	Existing	Planned	
Weekday	5:18 a.m. - 12:14 a.m.	5:00 a.m. - 1:00 a.m.	
Saturday	5:42 a.m. - 12:44 a.m.	5:40 a.m. - 12:00 a.m.	
Sunday	6:40 a.m. - 8:57 p.m.	5:40 a.m. - 12:00 a.m.	
Headway			
	Existing	Planned	
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	42	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	-	30
	Early / Late	-	60

Note	
Existing Friday service ends later.	

Service Changes

- Route 8 will be realigned, extending service to JEB Little Creek and covering a segment removed from Route 1. Heading north, after serving Evelyn T. Butts, Route 8 will head back west on Little Creek Boulevard, north on Tidewater Drive, and east on Ocean View Avenue and Shore Drive to JEB Little Creek.
- As a Regional Backbone route, on weekdays Route 8 will provide service between 5:00 a.m. and 1:00 a.m. and will operate with 15-minute service in the a.m. and PM peak periods and midday; half hour service in the early and evening periods; and hourly service in the late-night period.
- On weekends Route 8 will operate between 5:40 a.m. and 12:00 a.m., which is a slight decrease in hours on Saturday but a longer day of service on Sunday. Half hour service will be offered through much of the day, with hourly service being offered during the early and late-night periods.



Justification

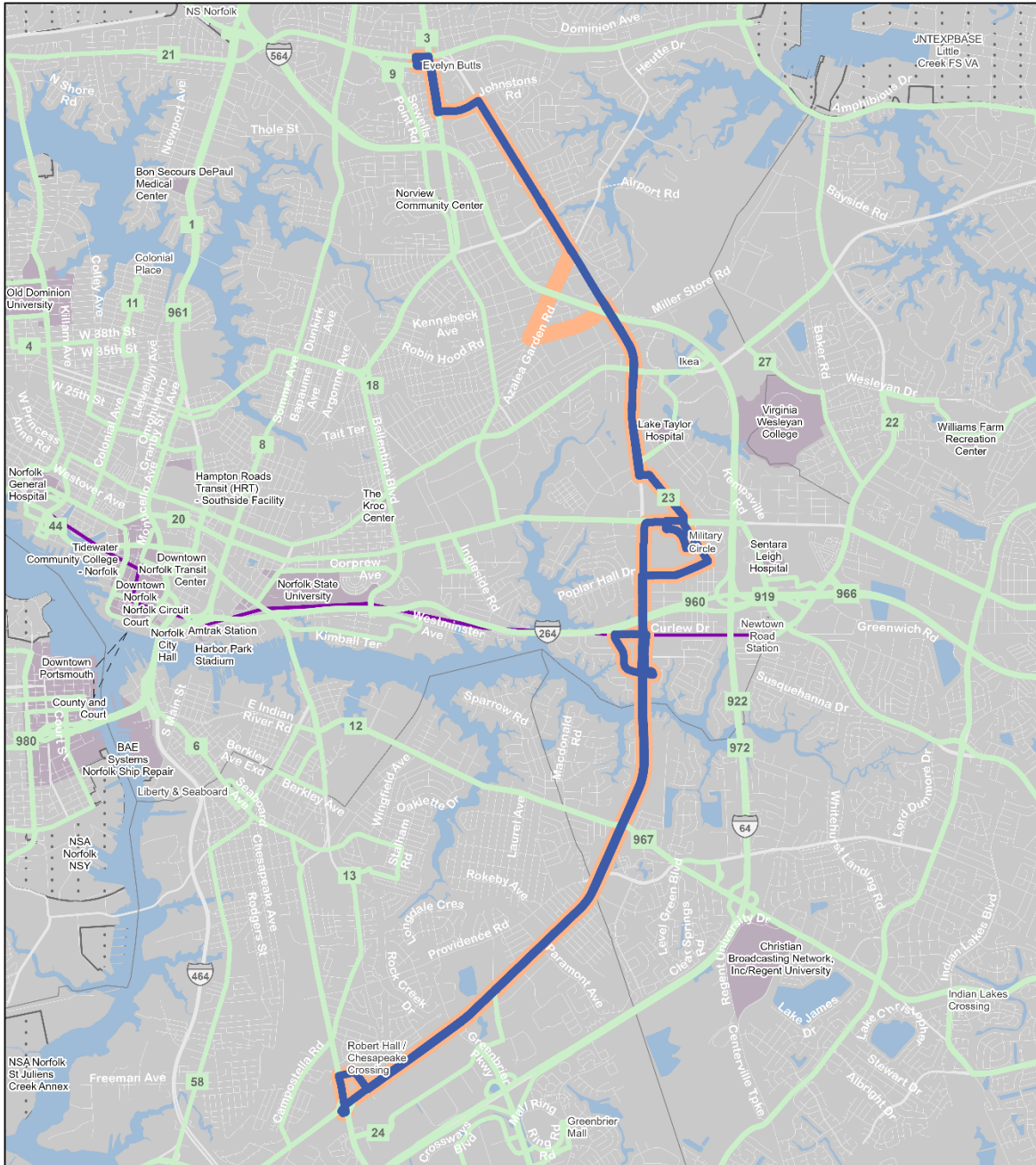
- Overall, Route 8 performs very well based on the six Key Performance Indicators (KPI). Its farebox recovery ratio is over 25 percent and passengers per revenue mile is 22.
- Increasing weekday peak period and midday service to 15-minute headways and extending the route to cover more connections should help increase service utilization.
- The service levels for Route 8 meet the service standards defined for Regional Backbone routes.

Route 8

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 8 will be realigned, extending service to JEB Little Creek and covering a segment removed from Route 1. Heading north, after serving Evelyn T. Butts, Route 8 will head back west on Little Creek Boulevard, north on Tidewater Drive, and east on Ocean View Avenue and Shore Drive to JEB Little Creek. Existing span and headways are maintained.	✓		
FY 2025	Improve weekday span to 5:00 a.m. to 1:00 a.m., change Saturday span to 5:40 a.m. to 12:00 a.m., and improve Sunday span to 5:40 a.m. to 12:00 a.m.. Improve weekday peak and weekday midday headways to 15 minutes. Improve weekday evening, Sunday base, and Sunday non-base headways to 30 minutes.		✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 15





Route 15

Focus Route

-  Planned Alignment
-  Existing Alignment


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 15

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Robert Hall Boulevard / Evelyn T. Butts Avenue	Robert Hall Boulevard / Evelyn T. Butts Avenue
Jurisdictions	Chesapeake, Norfolk, Virginia Beach	Chesapeake, Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		4:48 a.m. - 1:18 a.m.	5:00 a.m. - 1:15 a.m.
Saturday		5:18 a.m. - 12:48 a.m.	5:18 a.m. - 12:00 a.m.
Sunday		6:46 a.m. - 12:42 a.m.	5:18 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15 / 30
	PM Peak	15	15
	Evening	30	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- Route 15's alignment was recently updated in November 2021 to no longer serve Greenbrier Mall; all trips to Chesapeake terminate at Robert Hall.
- Route 15 will be streamlined along Military Highway by eliminating the diversion onto Azalea Garden Road and Robin Hood Road.
- Short turn service will be eliminated on Route 15 so that the target headways can be provided across the whole length of the route (a short turn will be in effect during the weekday midday period in order to provide new 15-minute midday service within the city of Norfolk between Evelyn T. Butts and the Military Highway light rail station).
- Weekend span will be shortened to end at 12:00 a.m.. Sunday service will begin earlier, at 5:18 a.m., to match Saturday service. On the weekends half hour headways will be offered from 6:00 a.m. to 9:00 p.m. both days, which is an improvement over hourly service during most of those times.



Justification

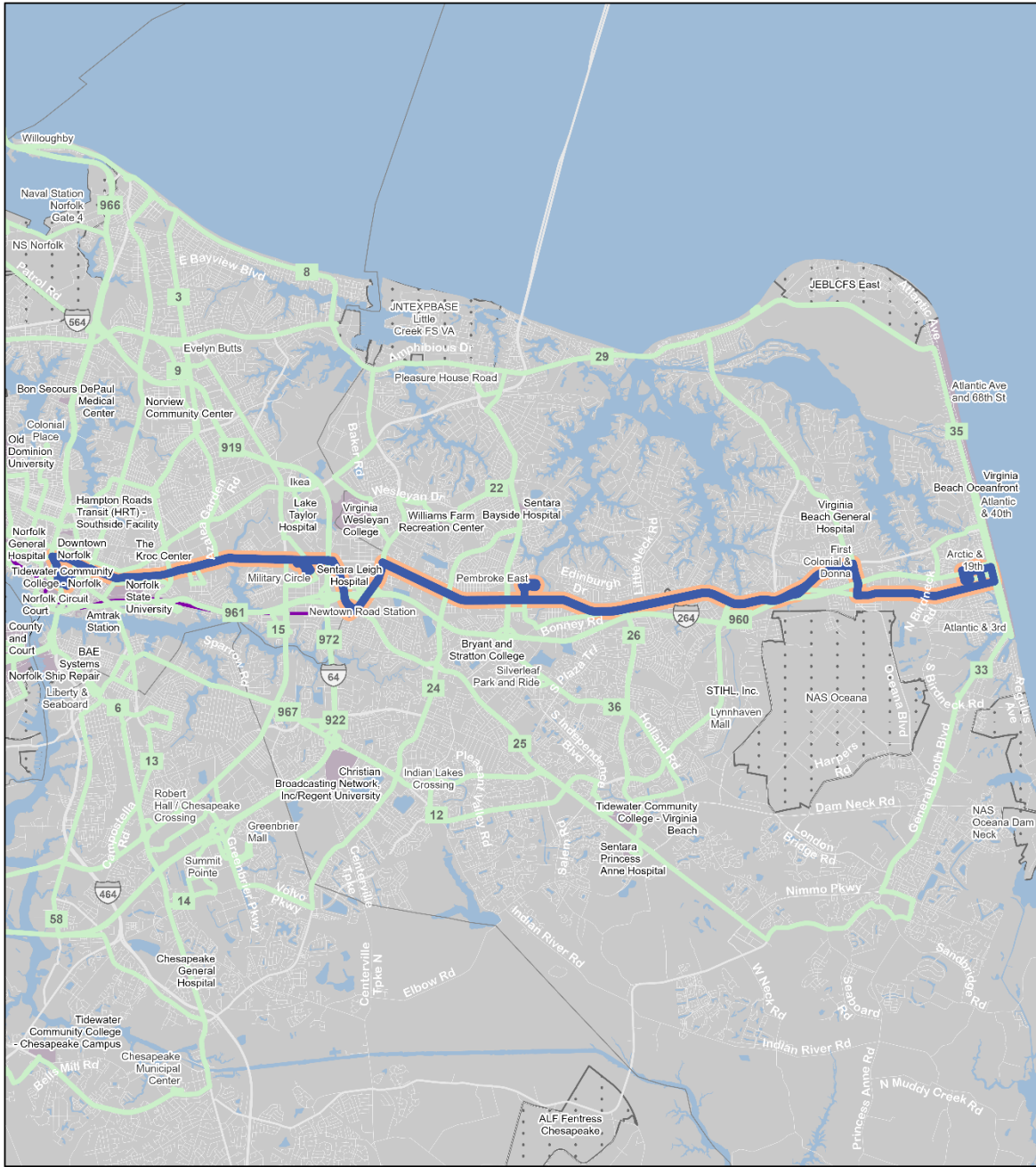
- Route 15 performs well on the six Key Performance Indicators (results of this analysis are in **Chapter 2, Section 2.3**), especially the passengers per hour measures—19, well above the Southside average of 14. Farebox recovery ratio and subsidy per passenger are within the top quarter of all routes. Route 15's performance indicates a demand for this service and warrants increases in service.
- The improvements will enhance frequent connections between Norfolk and Chesapeake and increase the attractiveness of this service.
- The service levels for Route 15 meet the service standards defined for Regional Backbone routes.

Route 15

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	In Norfolk, Route 15 will be streamlined along Military Highway by eliminating the diversion onto Azalea Garden Road and Robin Hood Road. Improve weekday span to 5:00 a.m. to 1:15 a.m.. Improve weekday peak headways to offer 15-minute service along the full length of the route. Improve weekday midday headway to 15 minutes on the short turn within the city of Norfolk. Saturday and Sunday service operate from 5:18 a.m. to 12:00 a.m. with 30 minute headways in the base and non-base periods.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 20





Route 20

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 20

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk / Virginia Beach Oceanfront	Downtown Norfolk / Virginia Beach Oceanfront
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		4:52 a.m. - 1:15 a.m.	4:52 a.m. - 1:15 a.m.
Saturday		5:22 a.m. - 1:14 a.m.	5:00 a.m. - 1:14 a.m.
Sunday		6:23 a.m. - 1:13 a.m.	5:00 a.m. - 1:14 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	15	15
	Midday	30	15
	PM Peak	15	15
	Evening	46	30 until 7:00 p.m., 60 after
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	30	15
	Non-Base	60	30
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route.	

Service Changes

- The Route 20 alignment was recently updated in November 2021 to serve Newtown Road light rail station via Kempsville Road and Newtown Road instead of going up and down Kempsville Road in both directions.
- Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.
- Short turns on this route will be eliminated, which will help to provide consistent frequency of service across the entire route's alignment.
- The current weekday span will be maintained, operating between 4:52 a.m. and 1:15 a.m., with service provided every 15 minutes during the AM peak, midday, and PM peak periods across the whole length of the route.
- Saturday service will be offered between 5:00 a.m. and 1:14 a.m. with 15-minute service being offered from 8:00 a.m. to 6:00 p.m.. Sunday service will be increased to match Saturday levels of service.



Justification

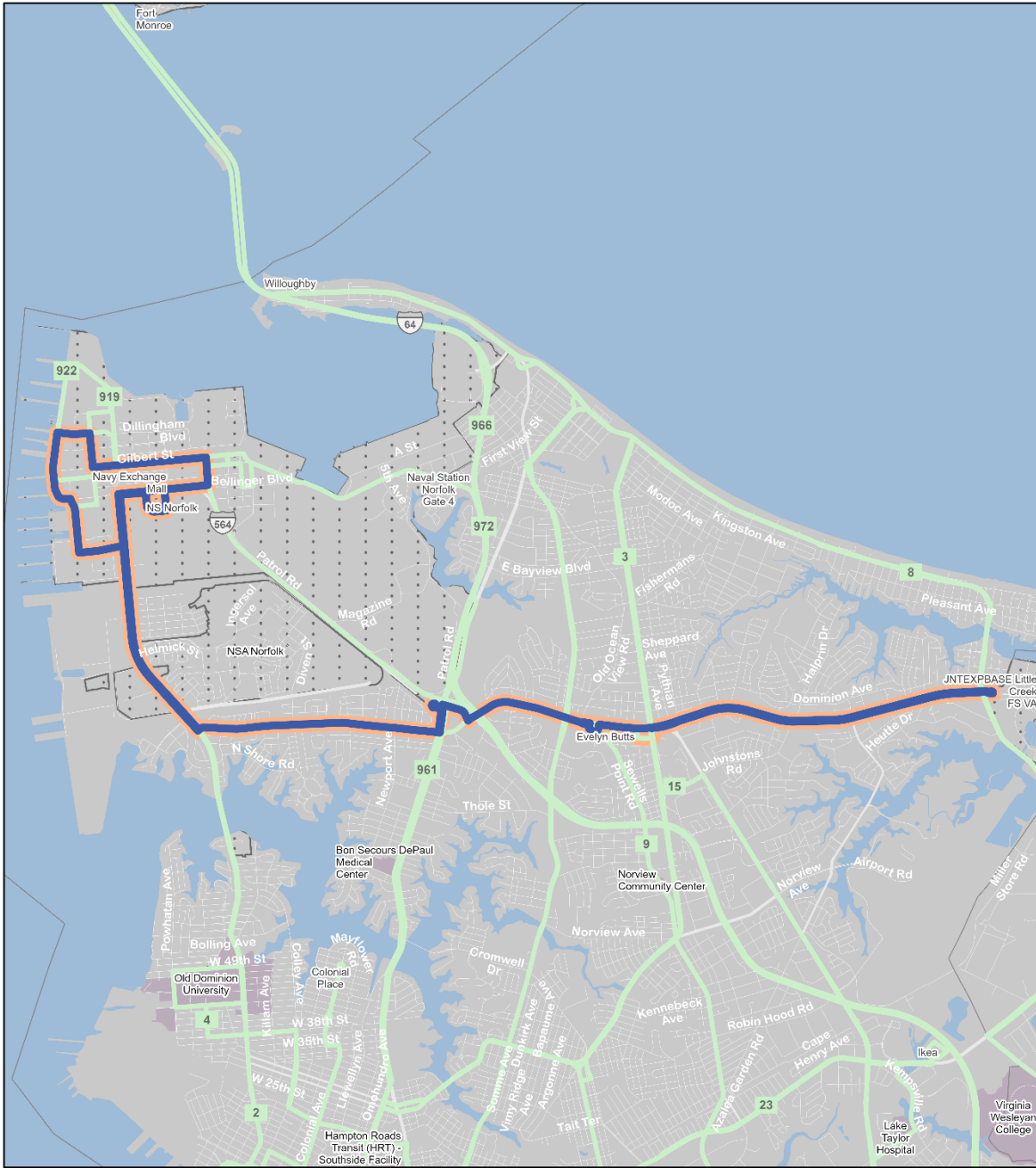
- Route 20 performs well on the six Key Performance Indicators (KPI) and is one of the highest performing routes in the system. Planned improvements will eliminate short turns on this route, providing continuous high-frequency service between Virginia Beach and Norfolk during the peak periods and providing consistent service across the whole length of the route in the other periods.
- This high-frequency Regional Backbone service will provide an enhanced regional connection between Downtown Norfolk and Virginia Beach, addressing a peak coverage demand gap in Virginia Beach.
- The service levels for Route 20 meet the service standards defined for Regional Backbone routes.

Route 20

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	(This change will technically occur towards the end of FY 2022) Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.	✓		
FY 2024	Improve Saturday and Sunday span to begin at 5:00 a.m.. Improve weekday midday, Saturday base, and Sunday base headways to 15 minutes. Improve Sunday non-base headway to 30 minutes. Short turns on Route 20 are eliminated, offering full service along the entire length of the route.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 21



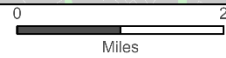
Route 21

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 21

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
To / From	Existing	Planned
	Naval Station Norfolk (peak hours only) / Navy Exchange Mall / Joint Expeditionary Base Little Creek	Navy Exchange Mall / Joint Expeditionary Base Little Creek
Jurisdictions	Norfolk	Norfolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:11 a.m. - 1:17 a.m.	5:00 a.m. - 1:00 a.m.
Saturday		5:12 a.m. - 1:38 a.m.	5:00 a.m. - 1:00 a.m.
Sunday		6:43 a.m. - 1:38 a.m.	5:00 a.m. - 1:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	43	30
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60

Service Changes

- In November 2021 Route 21 was modified to operate through Naval Station Norfolk only during the weekday peak periods. During other service periods, all trips will go directly to Navy Exchange Mall and not deviate through the naval base, no longer serving the B Avenue and Virginia Avenue stop.
- On weekdays service will be increased to every 15 minutes in the peak periods and during the midday and evening service will be improved to every half hour.
- Weekday and weekend service will be offered between 5:00 a.m. and 1:00 a.m.. On Saturdays there will be half hour service through much of the day. Sunday service will be increased to match Saturday levels.
- HRT has applied for a TRIP grant from DRPT to fund potential internal service on Naval Station Norfolk as an off-shoot of Route 21, similar to a circulator-type of service. If the grant application is successful, Route 21 would be modified in a future TSP update for its western end to operate a service pattern on the base to better connect to key destinations. The circulator-type service would operate on weekdays between 5:00 a.m. and 6:00 p.m. with 15-minute headways during the a.m. and PM peak periods and 30-minute headways during the off-peak.



Justification

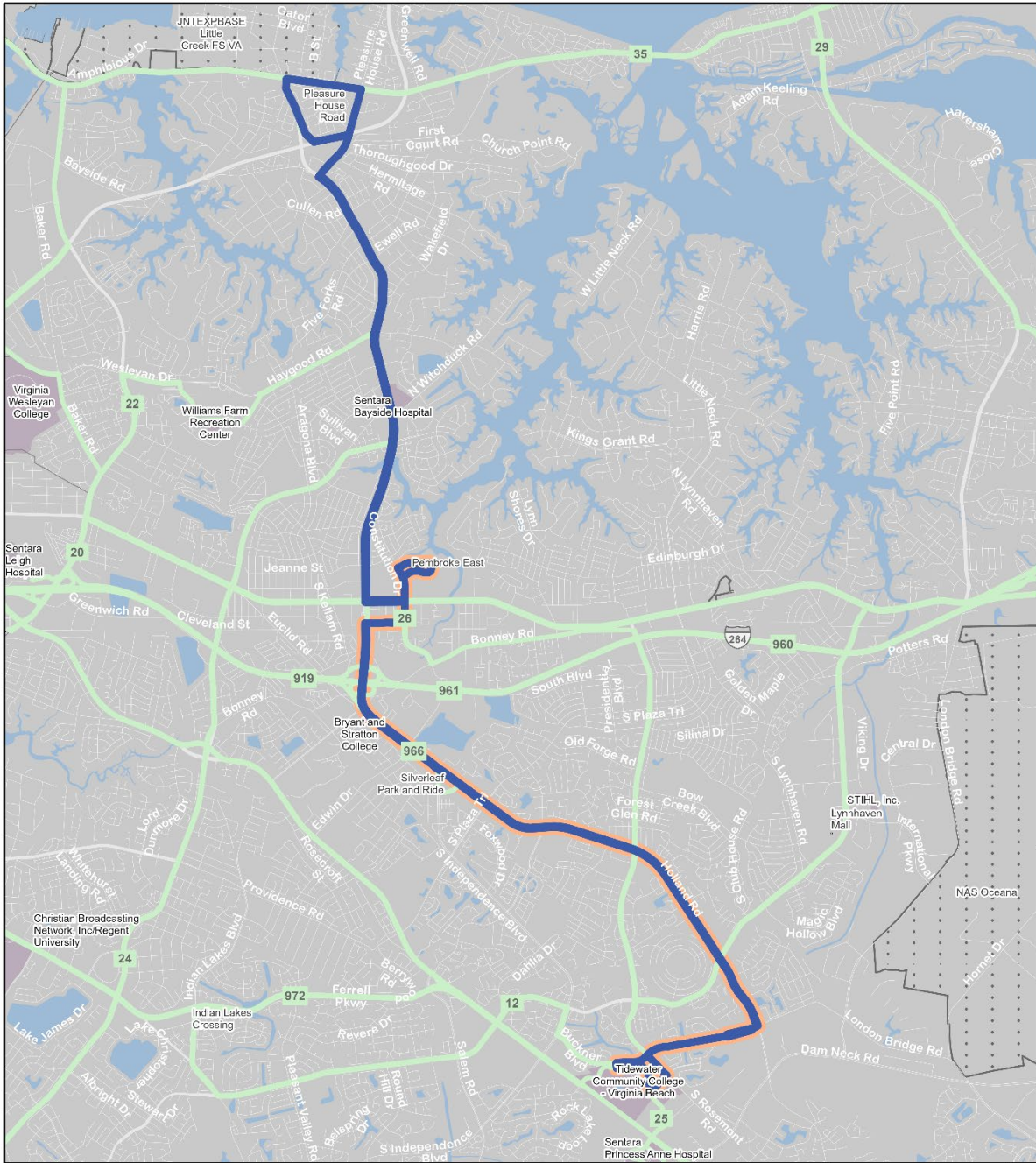
- Route 21 performs well on the six KPIs and will continue providing east-west connections in Norfolk in a similar fashion as currently operated.
- As a Regional Backbone route, Route 21 provides important crosstown connections between Route 1, Route 2, Route 3, Route 8, and Route 15, the high-frequency services providing north-south trips in Norfolk. Shortening peak period headways on Route 21 addresses a peak coverage demand gap between JEB Little Creek and Naval Station Norfolk.
- The service levels for Route 21 meet the service standards defined for Regional Backbone routes.

Route 21

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓		
FY 2024	No changes.			
FY 2025	Change weekday, Saturday, and Sunday span to 5:00 a.m. to 1:00 a.m.. Improve weekday peak and weekday midday headways to 15 minutes and weekday evening headway to 30 minutes. Improve Sunday base and non-base headways to 30 minutes.		✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 36



Route 36

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 36

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Pembroke East / TCC Virginia Beach	Pleasure House Road / Pembroke East / TCC Virginia Beach
Jurisdictions	Virginia Beach	Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	5:48 a.m. - 10:41 p.m.	5:00 a.m. – 1:00 a.m.	
Saturday	6:10 a.m. - 10:43 p.m.	5:00 a.m. – 12:00 a.m.	
Sunday	-	5:00 a.m. – 12:00 a.m.	
Headway			
	Existing	Planned	
Weekday	Early	30	30
	AM Peak	30	15
	Midday	60	30
	PM Peak	30	15
	Evening	60	30
	Late Night	-	60
Saturday	Base	60	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	-	30
	Non-Base	-	30
	Early / Late	-	60

Service Changes

- Route 36 will be extended to Pleasure House Road and Shore Drive north of Pembroke East. Route 36 will cover the Independence Boulevard corridor currently served by Route 1.
- On weekdays Route 36 will provide 15-minute service during the peak periods and 30-minute service during the early, midday, and evening periods. Hourly service will be provided from 9:00 p.m. to 12:00 a.m.. Weekday span of service will be extended to operate between 5:00 a.m. and 1:00 a.m..
- On weekends, Sunday service will be added and the span of service for both weekend days will be from 5:00 a.m. to midnight. Route 36 will operate with 30-minute headways throughout much of the weekend service day.



Justification

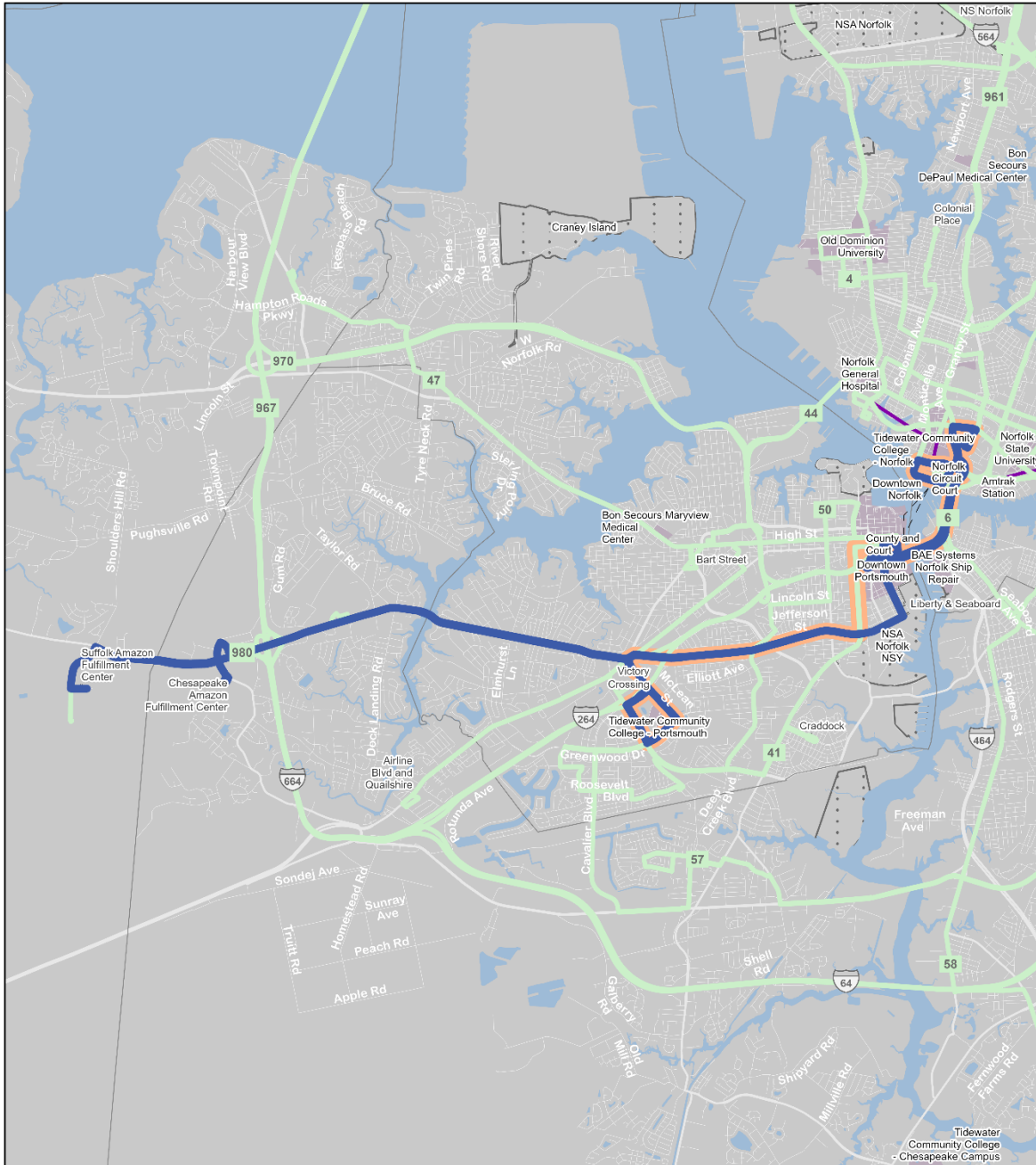
- Route 36 performs above average on most of the six Key Performance Indicators (KPI). The new extension of service on Route 36 connecting high-production areas will further improve the performance of the route.
- The extension of the service to Pleasure House Road will provide a north-south connection between Virginia Beach Avenue and Pleasure House Road. This new connection via the extended Route 36 addresses a gap in all-day transit demand and provides a higher level of service to the area. Route 36 will provide a cross-regional connection between Shore Drive and TCC Virginia Beach, which previously required a transfer.
- The service levels for Route 36 meet the service standards defined for Regional Backbone routes.

Route 36

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 36 is extended to Pleasure House Road and Shore Drive north of Pembroke East. Route 36 will cover the Independence Boulevard corridor currently served by Route 1. Improve weekday span to 5:00 a.m. to 1:00 a.m.. Improve Saturday and Sunday span to 5:00 a.m. to 12:00 a.m.. Improve weekday peak headways to 15 minutes. Improve weekday midday, weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base to 30 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 45






Route 45

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 45

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Norfolk Transit Center / Victory Crossing	Downtown Norfolk Transit Center / Midtown Portsmouth
Jurisdictions	Norfolk, Portsmouth	Chesapeake, Norfolk, Portsmouth

Level of Service			
Span			
		Existing	Planned
	Weekday	4:39 a.m. - 11:54 p.m.	4:39 a.m. - 1:00 a.m.
	Saturday	5:10 a.m. - 12:51 a.m.	5:10 a.m. - 12:51 a.m.
	Sunday	6:06 a.m. - 10:51 p.m.	5:10 a.m. - 12:51 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	30
	PM Peak	15	15 / 30
	Evening	30	30 / 60
	Late Night	60	60
Saturday	Base	30	30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	60	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- Route 45 will be extended to Starmount Parkway and Joliff Road to cover the eliminated segment of Portsmouth Boulevard currently served by Route 44. Seven days a week, select trips (three in the morning, three in the evening) will continue to the Amazon facilities in the Western Branch and Suffolk, along Portsmouth Blvd/Nansemond Parkway.
- In Downtown Portsmouth, Route 45 will operate via Port Centre Parkway and Portsmouth Boulevard instead of via Effingham Street and Court Street (service along these corridors will be replaced with the realigned Route 41). Transferring the service onto Port Centre Parkway will improve route directness and decrease travel time.
- Route 45 is a Regional Backbone service that will operate on weekdays between 4:39 a.m. and 1:00 a.m. between Victory Crossing, Downtown Portsmouth, and Norfolk. Route 45 will provide 15-minute service between Victory Crossing and Downtown Norfolk during a.m. and PM peak periods, with non-peak period (except late night) service being offered at half hour intervals within Portsmouth and to Norfolk. After 7:00 p.m. service will be provided to TCC Portsmouth (College/McLean).
- The existing Saturday span of service will be maintained and service will be offered every half hour between Norfolk and Victory Crossing between 6:00 a.m. and 9:00 p.m.. Service will be offered every half hour across the whole route from 8:00 a.m. to 6:00 p.m.—before and after that it will be hourly. No Saturday service will be provided to College/McLean.
- Sunday span will be extended to match Saturday and headways will be improved to match Saturday. No Sunday service will be provided to College/McLean.
- All routes which serve Victory Crossing, including Route 45, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.

Route 45



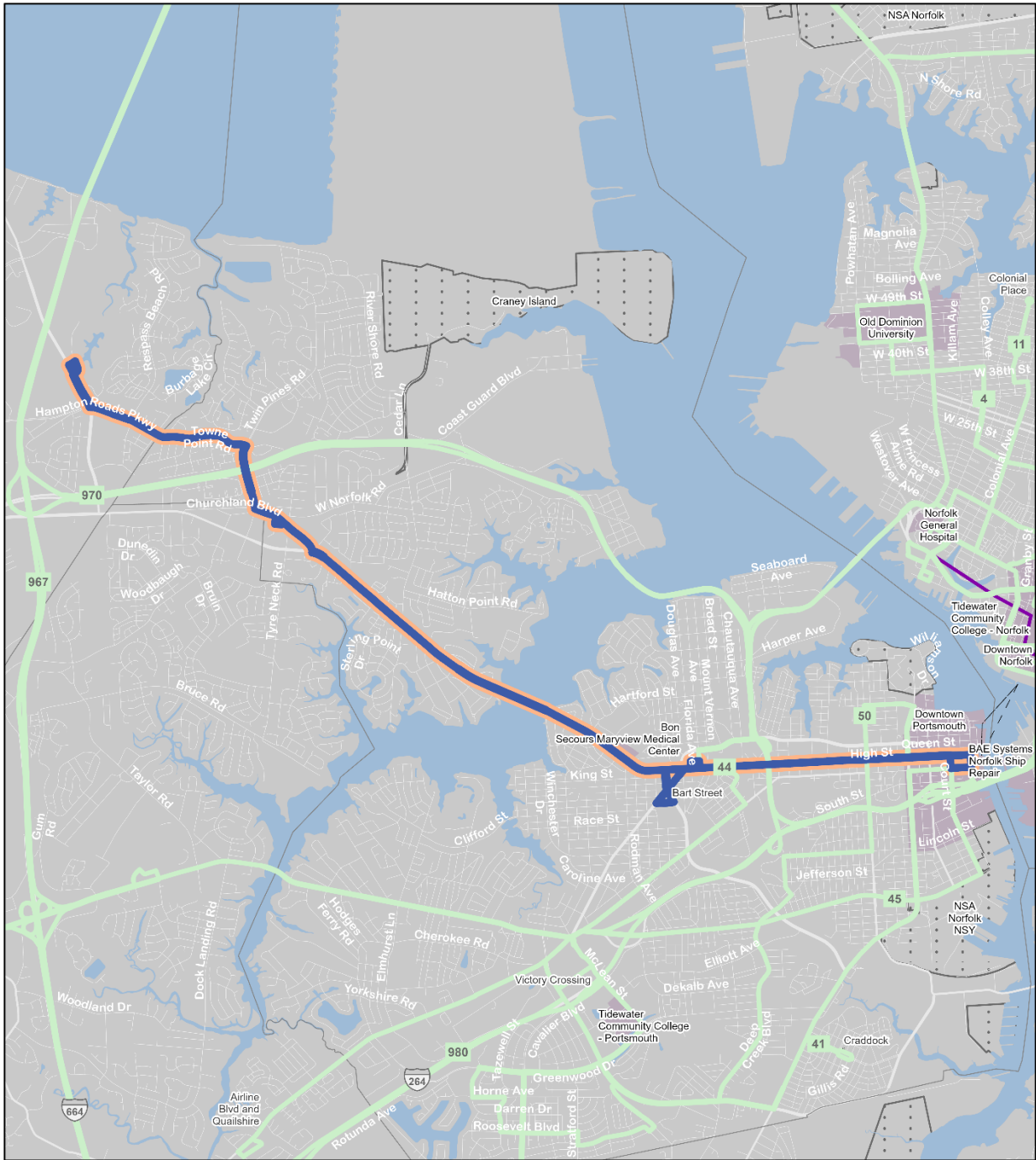
Justification

- The service changes for Routes 41, 44, and 45 work in tandem to help improve route directness for each of the routes by providing efficient services that operate along single corridors for longer distances with fewer turns. These changes will help to improve on-time performance for each of these routes and will simplify service patterns; these are characteristics which will help to improve service utilization.
- Serving the new Amazon facilities with Route 45 will connect workers from across the region to hundreds of new jobs via transit.
- The service levels for Route 45 meet the service standards defined for Regional Backbone routes.

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 45 will be extended to Starmount Parkway and Joliff Road to cover the eliminated segment of Portsmouth Boulevard currently served by Route 44. Seven days a week, select trips (three in the morning, three in the evening) will continue to the Amazon facilities in the Western Branch and Suffolk, along Portsmouth Blvd/Nansemond Parkway. In Downtown Portsmouth, Route 45 will operate via Port Centre Parkway and Portsmouth Boulevard instead of via Effingham Street and Court Street (service along these corridors will be replaced with the realigned Route 41). Improve weekday span to end at 1:00 a.m.. Improve Sunday span to 5:10 a.m. to 12:51 a.m.. Improve Sunday base and non-base headways on the short turn to 30 minutes.	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 47



Route 47

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 47

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Downtown Portsmouth / Churchland	Downtown Portsmouth / Churchland
Jurisdictions	Suffolk, Portsmouth	Suffolk, Portsmouth

Level of Service			
Span			
		Existing	Planned
Weekday		5:49 a.m. - 10:30 p.m.	5:00 a.m. - 1:00 a.m.
Saturday		6:03 a.m. - 10:30 p.m.	5:00 a.m. - 12:00 a.m.
Sunday		6:33 a.m. - 7:30 p.m.	5:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	15	15 / 30
	Midday	30	30
	PM Peak	15	15 / 30
	Evening	30	30 / 60
	Late Night	-	60
Saturday	Base	30	30
	Non-Base	60	30 / 60
	Early / Late	-	60
Sunday	Base	60	30
	Non-Base	60	30 / 60
	Early / Late	-	60

Note	
This route's existing service operates with regular short turns. The existing headways that are listed in this table may not necessarily apply to the full length of the existing route. This route's planned service also operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- The alignment for Route 47 will remain predominantly the same as existing, with the addition of providing service every half hour between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area during the weekday peaks, weekday midday, and weekend base periods; with the elimination of Route 43, Route 47 will continue to provide this connection with a longer span of service and better headways between Downtown Portsmouth and the commercial area.
- Weekday peak period service and midday service is to remain the same as existing: during weekday peak periods there will be 15-minute high-frequency service between Village Street and Churchland Boulevard and County Street and Court Street (the short turn) and 30-minute service from College Drive and Lake View Parkway to County Street and Court Street (the full length of the route). During the weekday midday period there will be 30-minute service along the full length of the route. Early and evening service will operate every 30 minutes between Village Street and Churchland Boulevard and County Street and Court Street and every 60 minutes along the full length of the route. Late night service will operate hourly along the full length of the route.
- The weekday span of service will be extended, starting at 5:00 a.m. and ending at 1:00 a.m..
- Weekend service will begin earlier at 5:00 a.m. and end later at midnight. On weekends there will be 30-minute service along the full length of the route during the base period, 30-minute service along the short turn and 60-minute service along the full length of the route in the non-base period, and hourly service in the early/late period.



Justification

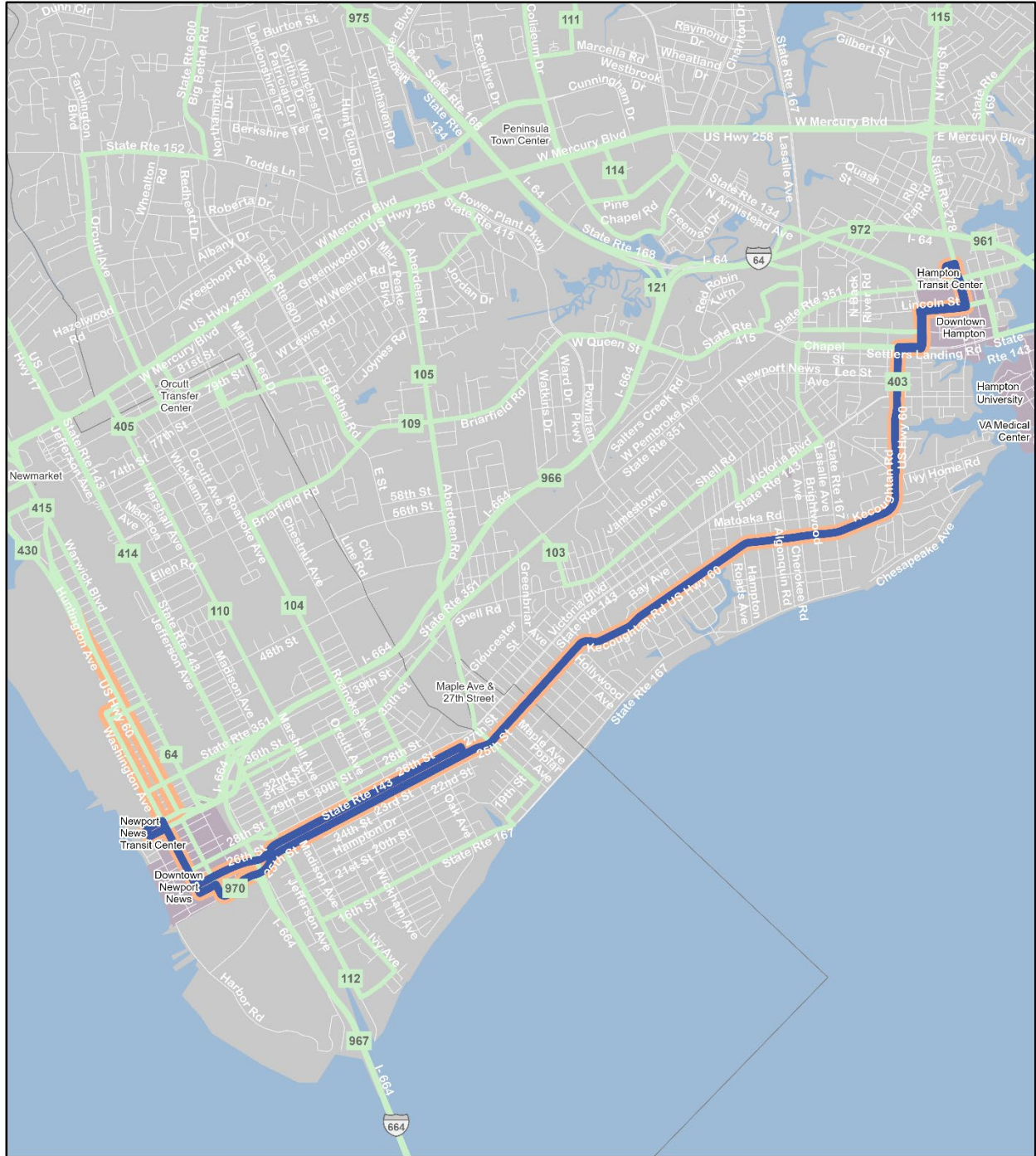
- The current Route 47 service offers an important connection between Downtown Portsmouth and the neighboring City of Suffolk, enabling a direct connection to the Suffolk Transit bus system.
- The service levels for Route 47 meet the service standards defined for Regional Backbone routes.

Route 47

Improvements by Year


Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.			
FY 2024	Route 47 is realigned to provide hourly service between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area; with the elimination of Route 43, Route 47 will continue to provide this connection. Improve weekday span to 5:00 a.m. to 1:00 a.m.. Improve weekend span to 5:00 a.m. to 12:00 a.m.. Improve weekday AM peak, midday, and PM peak headways to 30 minutes along the full length of the route. Service on both weekend days is now provided to College and Lakeview from 5:00 a.m. to 12:00 a.m.. On both weekend days Route 47 will serve College and Lakeview (the full length of the route) every 30 minutes from 8:00 a.m. to 6:00 p.m. and hourly for the rest of the span of service (5:00 a.m. to 8:00 a.m. and 6:00 p.m. to 12:00 a.m.). During the weekend non-base period, service is offered every 30 minutes on the short turn (between Village Street and Churchland Boulevard and County Street and Court Street).	✓	✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 101



Route 101

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 101

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	(Kecoughtan) Downtown Newport News / Downtown Hampton	(Kecoughtan) Downtown Newport News / Downtown Hampton
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:15 a.m. - 12:10 a.m.	5:00 a.m. - 1:00 a.m.
Saturday		5:15 a.m. - 12:10 a.m.	5:15 a.m. - 12:10 a.m.
Sunday		5:45 a.m. - 8:08 p.m.	5:15 a.m. - 12:10 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	35	15
	Midday	35	30
	PM Peak	35	15
	Evening	60	30
	Late Night	60	60
Saturday	Base	35	30
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	30
	Non-Base	60	30
	Early / Late	-	60

Service Changes

- Route 101 will operate between the Newport News Transfer Center (NNTC) and Hampton Transfer Center (HTC), no longer serving Northgate (the current 3:40 p.m. trip will be provided by an additional trip on Route 403).
- Weekday service will be offered between 5:00 a.m. and 1:00 a.m., which is a slightly later end time than currently offered on the Route 101.
- Service during the weekday peak periods will be offered every 15 minutes. During the weekday early, midday, and evening periods, service will be offered every 30 minutes, and hourly service in the late night period.
- On weekends, Sunday service is expanded to match current Saturday levels of service from 5:15 a.m. to 12:10 a.m., with 30-minute headways from 6:00 a.m. to 9:00 p.m. and 60-minute headways during other times.



Justification

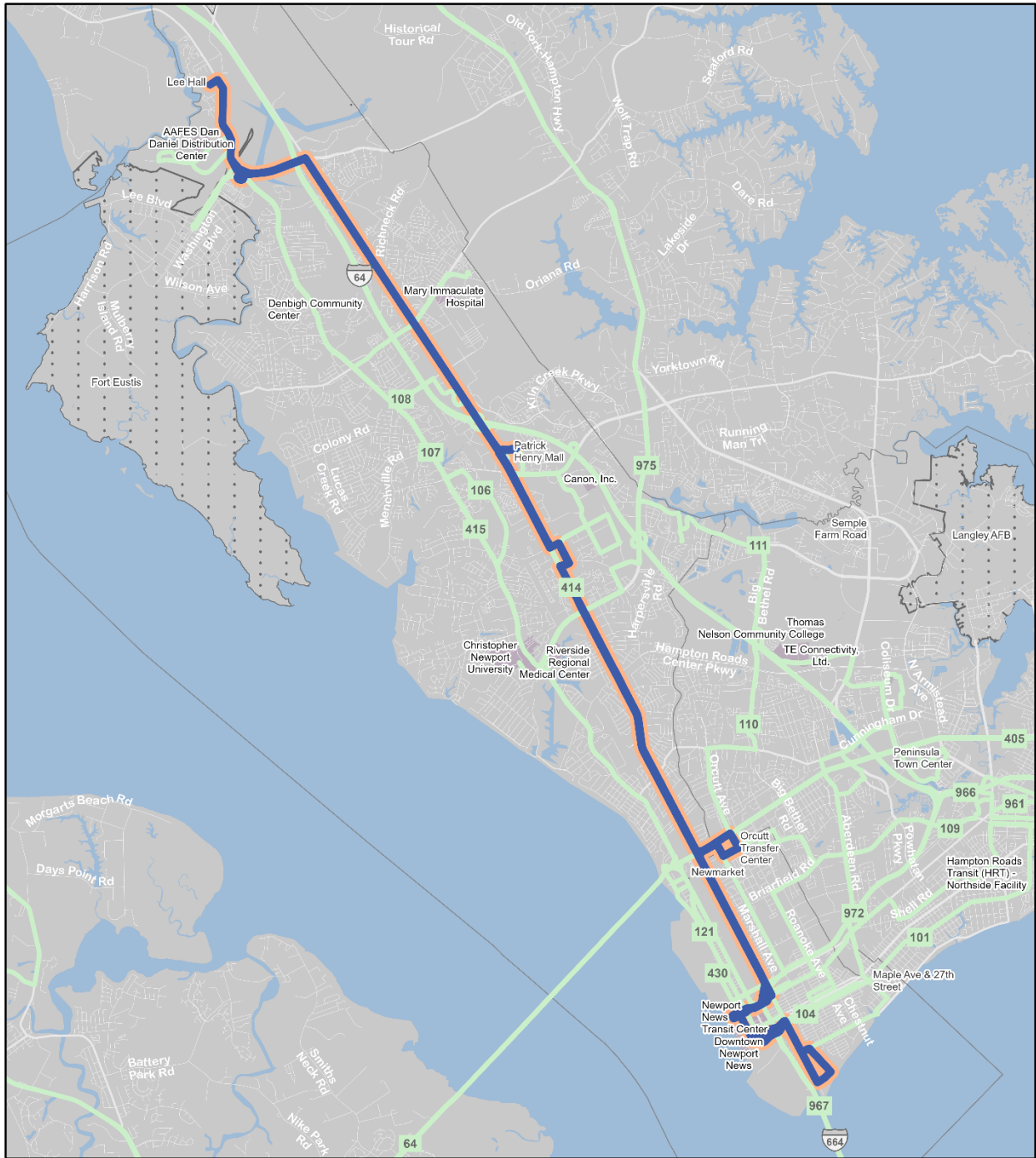
- Route 101 performs well on the six Key Performance Indicators (KPI) and warrants an increase in service.
- The service levels for Route 101 meet the service standards defined for Regional Backbone routes.

Route 101

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Route 101 will operate between the Newport News Transfer Center (NNTC) and Hampton Transfer Center (HTC), no longer serving Northgate (the current 3:40 p.m. trip will be provided by an additional trip on Route 403). Improve weekday span to 5:00 a.m. to 1:00 a.m. and Sunday span to 5:15 a.m. to 12:10 a.m.. Improve weekday peak headways to 15 minutes. Improve weekday midday, weekday evening, Saturday base, Saturday non-base, Sunday base, and Sunday non-base headways to 30 minutes.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 112






Route 112

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 112

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Ivy Avenue & 6th Street / Downtown Newport News / Patrick Henry Mall / Lee Hall	Ivy Avenue & 6th Street / Downtown Newport News / Patrick Henry Mall / Lee Hall
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	4:55 a.m. - 12:57 a.m.	4:55 a.m. - 1:00 a.m.
	Saturday	4:55 a.m. - 12:57 a.m.	4:55 a.m. - 12:57 a.m.
	Sunday	6:28 a.m. - 8:33 p.m.	5:15 a.m. - 12:35 a.m.
Headway			
		Existing	Planned
Weekday	Early	30	30 / 60
	AM Peak	30	15 / 30
	Midday	30	15 / 30
	PM Peak	30	15 / 30
	Evening	30	30 / 60
	Late Night	30	60
Saturday	Base	30	15 / 30
	Non-Base	30	30 / 60
	Early / Late	60	60
Sunday	Base	60	15 / 30
	Non-Base	60	30 / 60
	Early / Late	-	60

Note	
This route's planned service operates with short turns. The two numbers listed in the table show the headways for the portions of the route with and without the short turn. To see where the short turn operates, please refer to the route description in the Service Changes bullets.	

Service Changes

- No further alignment changes are planned (in November 2021 the Route 112 alignment was extended to Lee Hall).
- Route 112 will operate high-frequency service between 6th and Ivy, NNTC, and Patrick Henry Mall.
- On weekdays, service will operate every 15 minutes between 6th and Ivy and Patrick Henry Mall from 6:00 a.m. to 6:00 p.m. and every 30 minutes to Lee Hall. Before 6:00 a.m. and between 6:00 p.m. and 11:00 p.m. service will operate every 30 minutes between 6th and Ivy and Patrick Henry Mall and hourly on the extension to Lee Hall. After 11:00 p.m., service will operate hourly along the whole length of the route.
- The Sunday span of service will be increased. During the weekend base period service will operate every 15 minutes between 6th and Ivy and Patrick Henry Mall and every 30 minutes to Lee Hall. During the weekend non-base period, service will operate every 30 minutes between 6th and Ivy and Patrick Henry Mall and hourly to Lee Hall. During the weekend early/late period service will operate hourly along the whole length of the route.



Justification

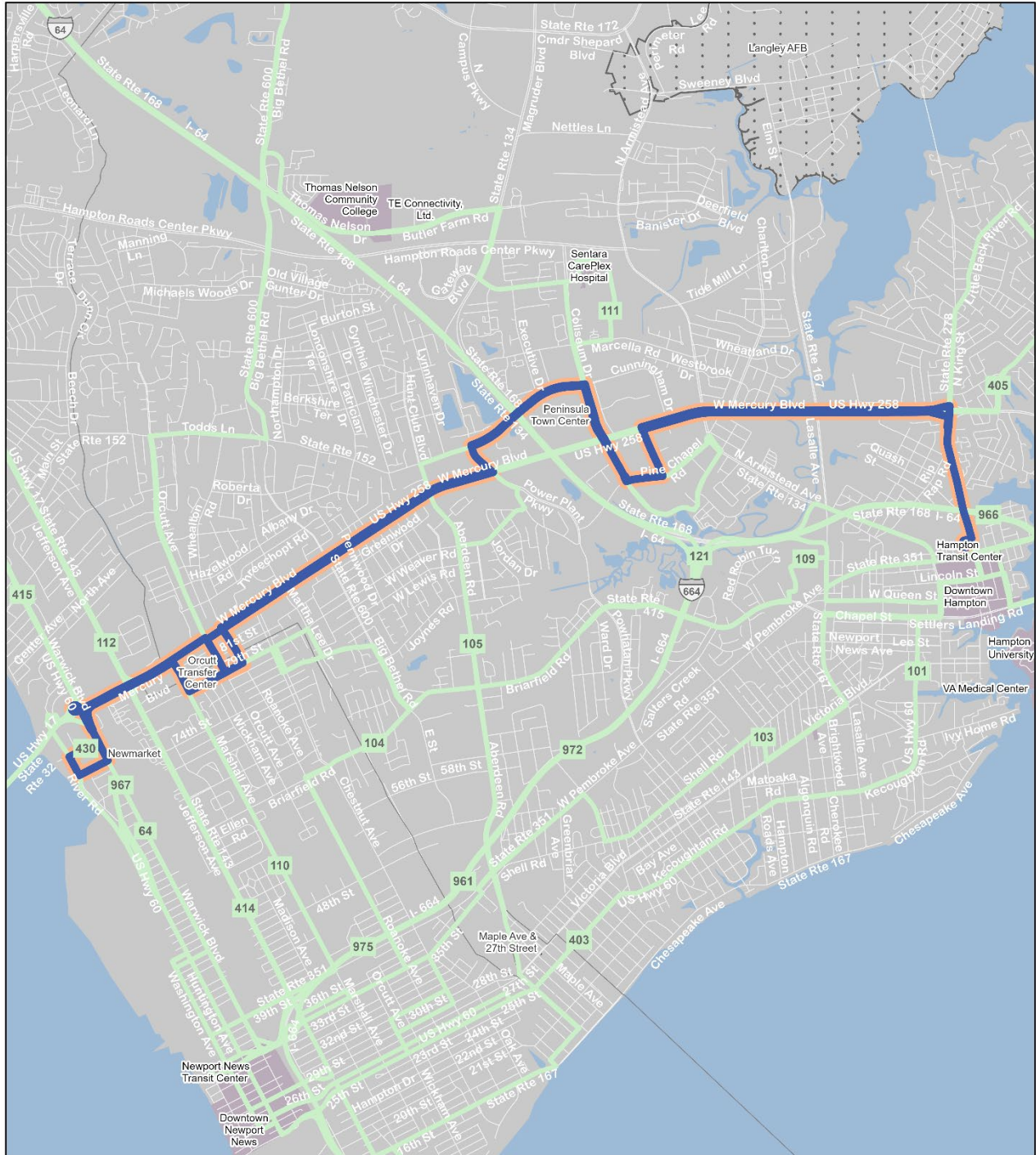
- Route 112 is performing well based on the six Key Performance Indicators (KPI). Route 112 is one of the alignments identified in the Peninsula BRT corridor study plan. Service will be increased, in line with the travel demand along the route and the BRT study plan.
- These service changes address an all-day service gap in Newport News.

Route 112

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 4:55 a.m. to 1:00 a.m. and Sunday span to 5:15 a.m. to 12:35 a.m.. Implement 30-minute headways on the full route on weekdays from 6:00 a.m. to 6:00 p.m. and during Saturday and Sunday base periods. On the short turn between 6th & Ivy and Patrick Henry, implement 15-minute headways on weekdays from 6:00 a.m. to 6:00 p.m. and 30 minute headways during the early and evening periods. During Saturday and Sunday base periods, implement 15-minute headways on the short turn. During Saturday and Sunday non-base periods, implement 30-minute headways on the short turn.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 114



Route 114

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 114

Service Classification	
Regional Backbone	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newmarket / Downtown Hampton	Newmarket / Downtown Hampton
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	6:20 a.m. - 11:38 p.m.	5:00 a.m. - 1:00 a.m.
	Saturday	6:45 a.m. - 11:32 p.m.	6:00 a.m. - 12:00 a.m.
	Sunday	6:45 a.m. - 7:30 p.m.	6:00 a.m. - 12:00 a.m.
Headway			
		Existing	Planned
Weekday	Early	-	30
	AM Peak	30	15
	Midday	30	15
	PM Peak	30	15
	Evening	60	30
	Late Night	60	60
Saturday	Base	30	15
	Non-Base	60	30
	Early / Late	60	60
Sunday	Base	60	15
	Non-Base	60	30
	Early / Late	-	60

Service Changes

- No change to existing alignment.
- On weekdays, expand the span of service to match the service design guidelines for Regional Backbone, starting at 5:00 a.m. and ending at 1:00 a.m..
- From 6:00 a.m. to 6:00 p.m., the service will operate every 15-minutes. Before 6:00 a.m. and between 6:00 p.m. and 11:00 p.m., service will operate at half hour intervals. After 11:00 p.m., service will be offered hourly.
- On weekends, the span of service will be expanded to match the service design standards for Regional Backbone routes, starting at 6:00 a.m. and ending at 12:00 a.m., with 15-minute service being provided through much of the day.



Justification

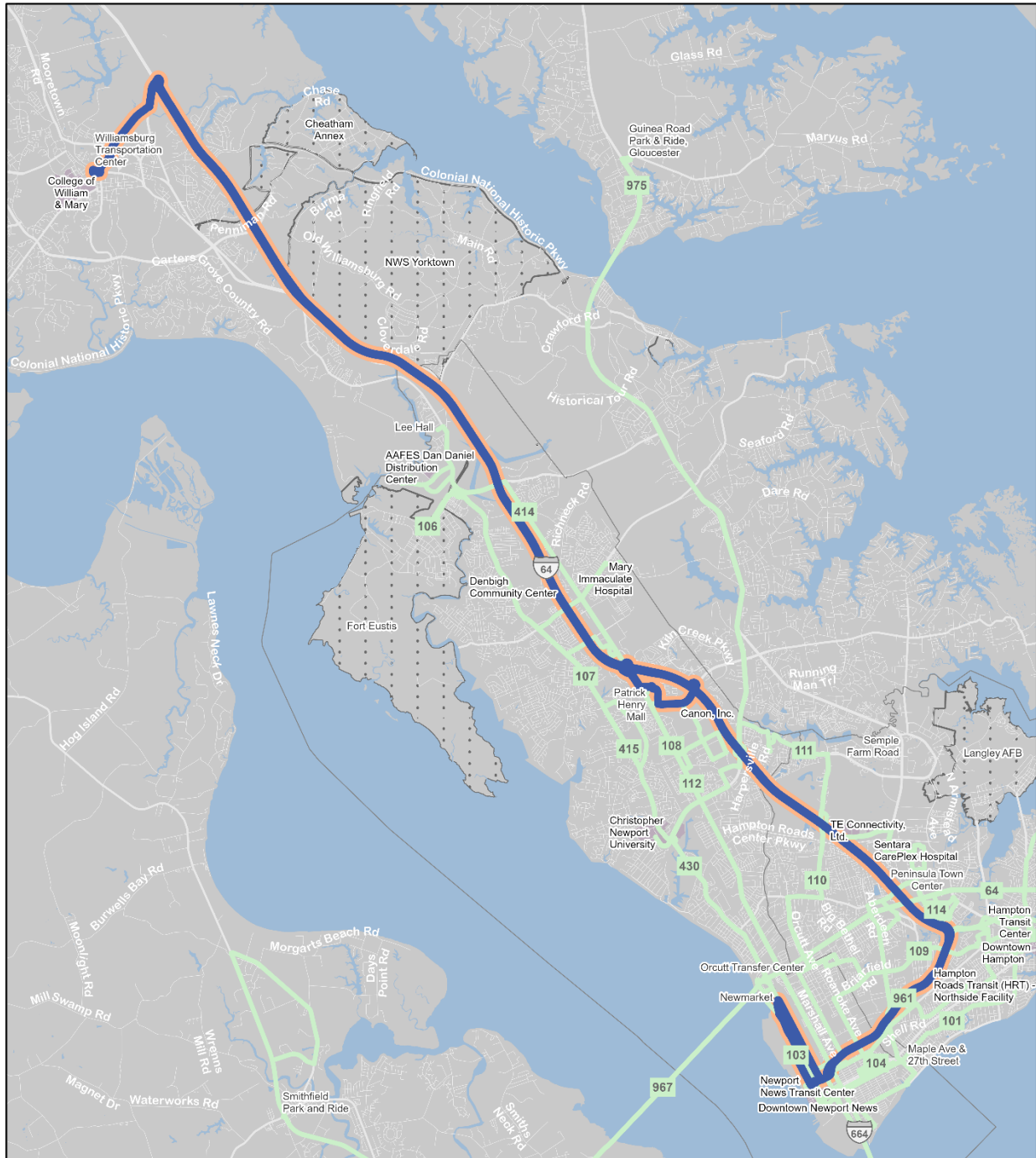
- Route 114 is performing well on the six Key Performance Indicators (KPI). Route 114 is one of the alignments identified in the Peninsula BRT corridor study plan—the planned and existing alignment match that from the corridor plan. Route 114 service will improve in line with the travel demand along the route and the BRT study plan.
- These service changes address an all-day service gap between Newport News and Hampton by increasing midday service in this area.
- The levels of service for Route 114 meet the service standards defined for Regional Backbone routes.

Route 114

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Improve weekday span to 5:00 a.m. to 1:00 a.m. and weekend span to 6:00 a.m. -12:00 a.m.. On weekdays, implement 15-minute headways from 6:00 a.m. to 6:00 p.m. and 30-minute headways in the early and evening periods. On weekends, implement 15-minute headways in the base period and 30-minute headways in the non-base period.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 121



Route 121

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 121

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Williamsburg Transportation Center	Newport News Transit Center / Williamsburg Transportation Center
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	5:30 a.m. - 7:00 a.m.; 3:40 p.m. - 5:50 p.m.	5:30 a.m. - 7:00 a.m.; 3:40 p.m. - 5:50 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	1 Trip	1 Trip
	AM Peak	1 Trip	1 Trip
	Midday	-	-
	PM Peak	2 Trips	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No schedule or alignment changes.



Justification

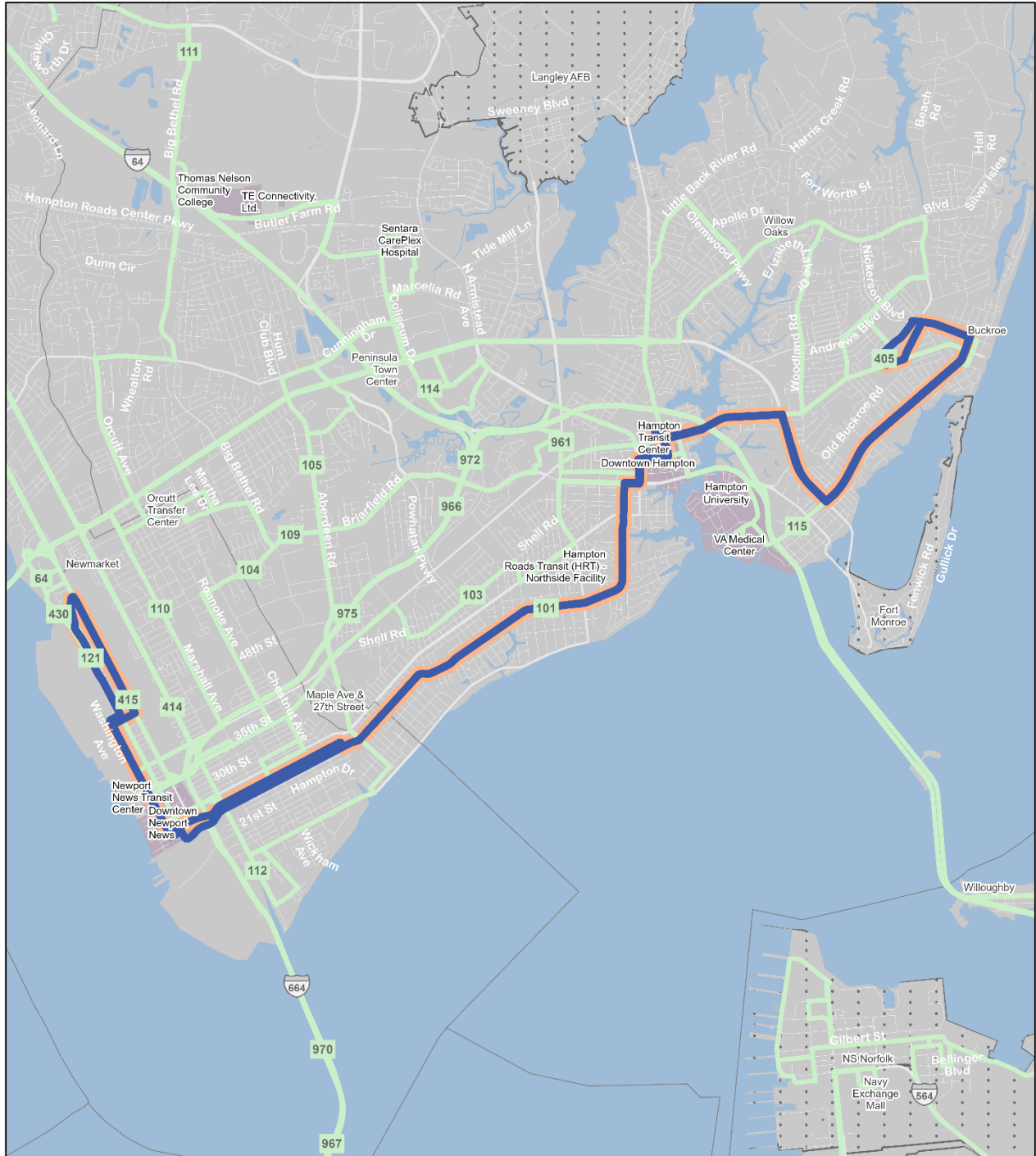
- MAX Route 121 service will remain unchanged from what is currently offered.

Route 121

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 403






Route 403

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 403

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Buckroe Shopping Center	Buckroe Shopping Center
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:28 a.m. - 6:18 a.m.	5:28 a.m. - 6:18 a.m.; 3:40 p.m. - 4:15PM
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	-	-
	Midday	-	-
	PM Peak	-	1 Trip
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One trip will be added to Route 403 in the PM peak period at 3:40 p.m.. The 3:40 p.m. trip is being transferred from Route 101.



Justification

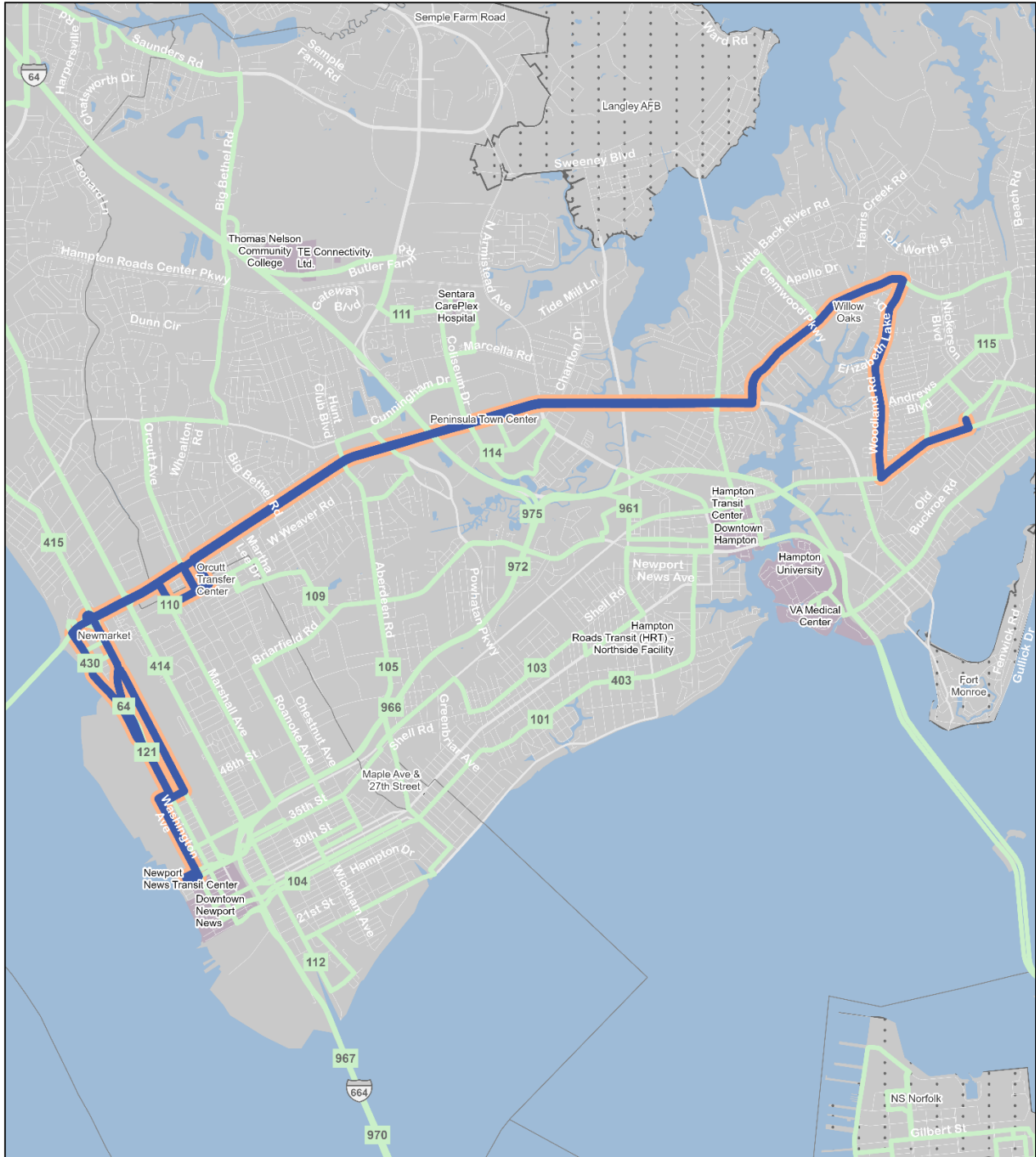
- An additional trip will be added to Route 403 which will replace service removed from Northgate currently being provided by Route 101.

Route 403

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 405






Route 405

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 405

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Buckroe	Newport News Transit Center / Buckroe
Jurisdictions	Hampton, Newport News	Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:50 a.m. - 6:31 a.m.; 2:40 p.m. - 3:38 p.m.	4:50 a.m. - 5:50 a.m.; 2:40 p.m. - 4:38 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	2 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- Two trips will be added to Route 405, one in the early period at 4:50 a.m., and one in the PM peak period at 3:40 p.m..



Justification

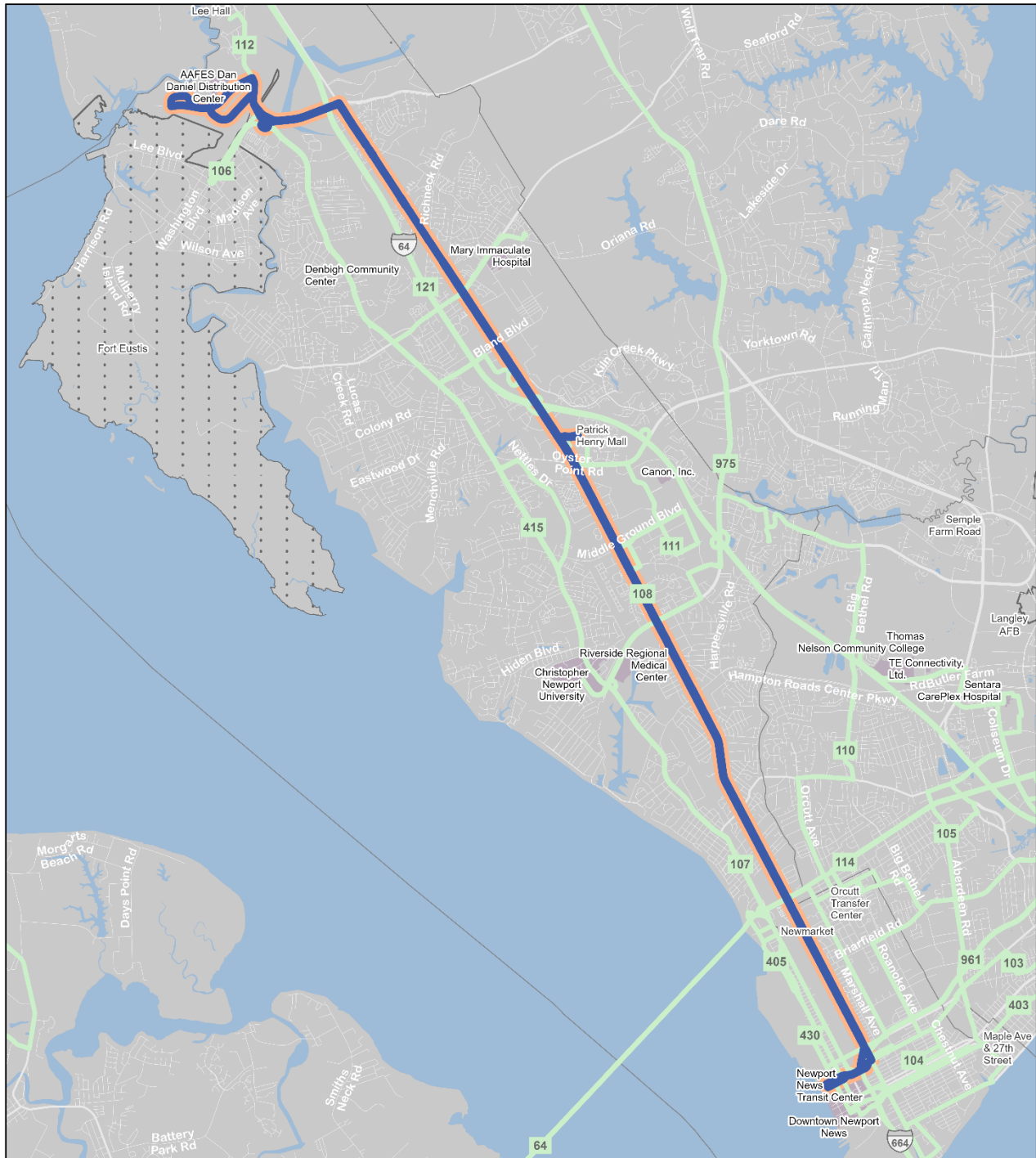
- Additional trips will be added to Route 405 to meet shift-specific demand.

Route 405

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One trip is added in the early period. One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 414






Route 414

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 414

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Jefferson / Oakland	Newport News Transit Center / Jefferson / Oakland
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
	Existing	Planned	
Weekday	5:20 a.m. - 7:49 a.m.; 3:40 p.m. - 6:12 p.m.	5:20 a.m. - 7:49 a.m.; 3:40 p.m. - 6:12 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	2 Trips	2 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	3 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

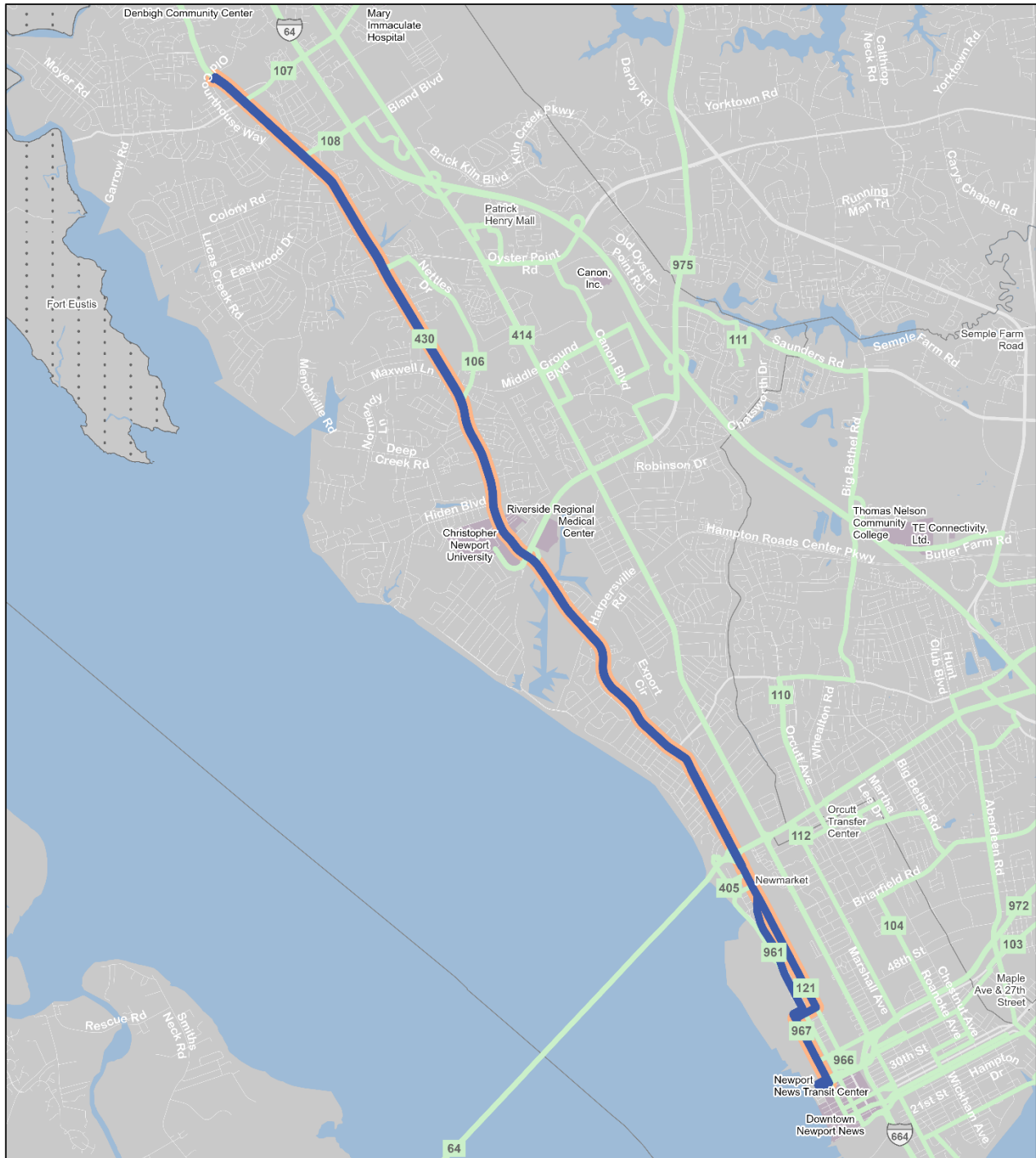
- Route 414 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

Route 414

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 415



Route 415

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 415

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News Transit Center / Denbigh	Newport News Transit Center / Denbigh
Jurisdictions	Newport News	Newport News

Level of Service		
Span		
	Existing	Planned
Weekday	3:45 p.m. - 4:27 p.m.	6:00 a.m. - 6:42 a.m.; 3:45 p.m. - 4:27 p.m.
Saturday	-	-
Sunday	-	-
Headway		
	Existing	Planned
Weekday	Early	-
	AM Peak	-
	Midday	-
	PM Peak	1 Trip
	Evening	-
	Late Night	-
Saturday	Base	-
	Non-Base	-
	Early / Late	-
Sunday	Base	-
	Non-Base	-
	Early / Late	-

Service Changes

- One trip will be added to Route 415 at 6:00 a.m..



Justification

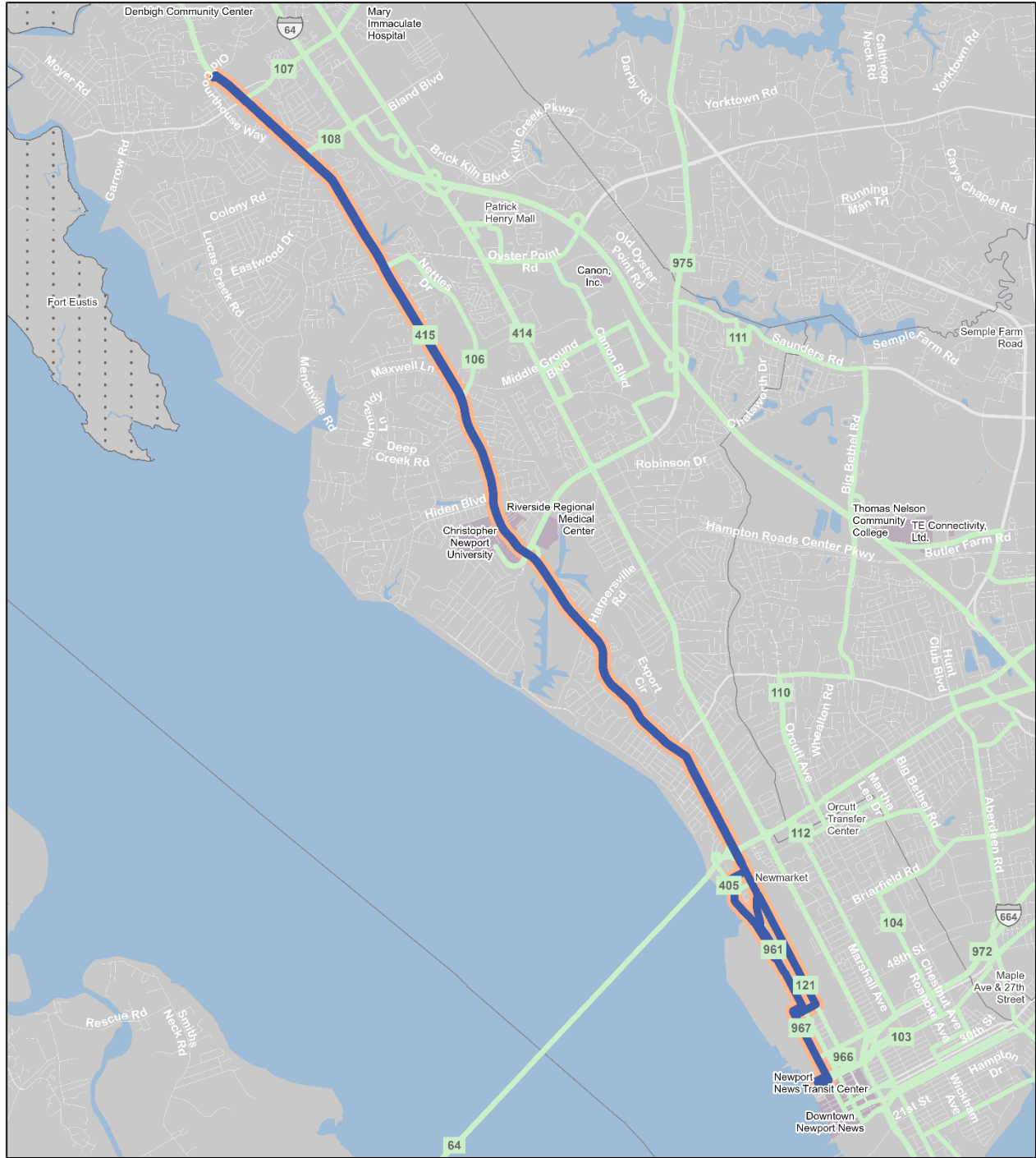
- The additional trip will be added to meet shift-specific demand.

Route 415

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 430






Route 430

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 430

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Denbigh Fringe	Denbigh Fringe
Jurisdictions	Newport News	Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		5:35 a.m. - 6:30 a.m.; 3:40 p.m. - 4:24 p.m.	5:00 a.m. - 5:55 a.m.; 3:30 p.m. - 4:24 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	2 Trips	3 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One trip will be added to Route 430 at 5:00 a.m.. Another will be added at 3:30 p.m..



Justification

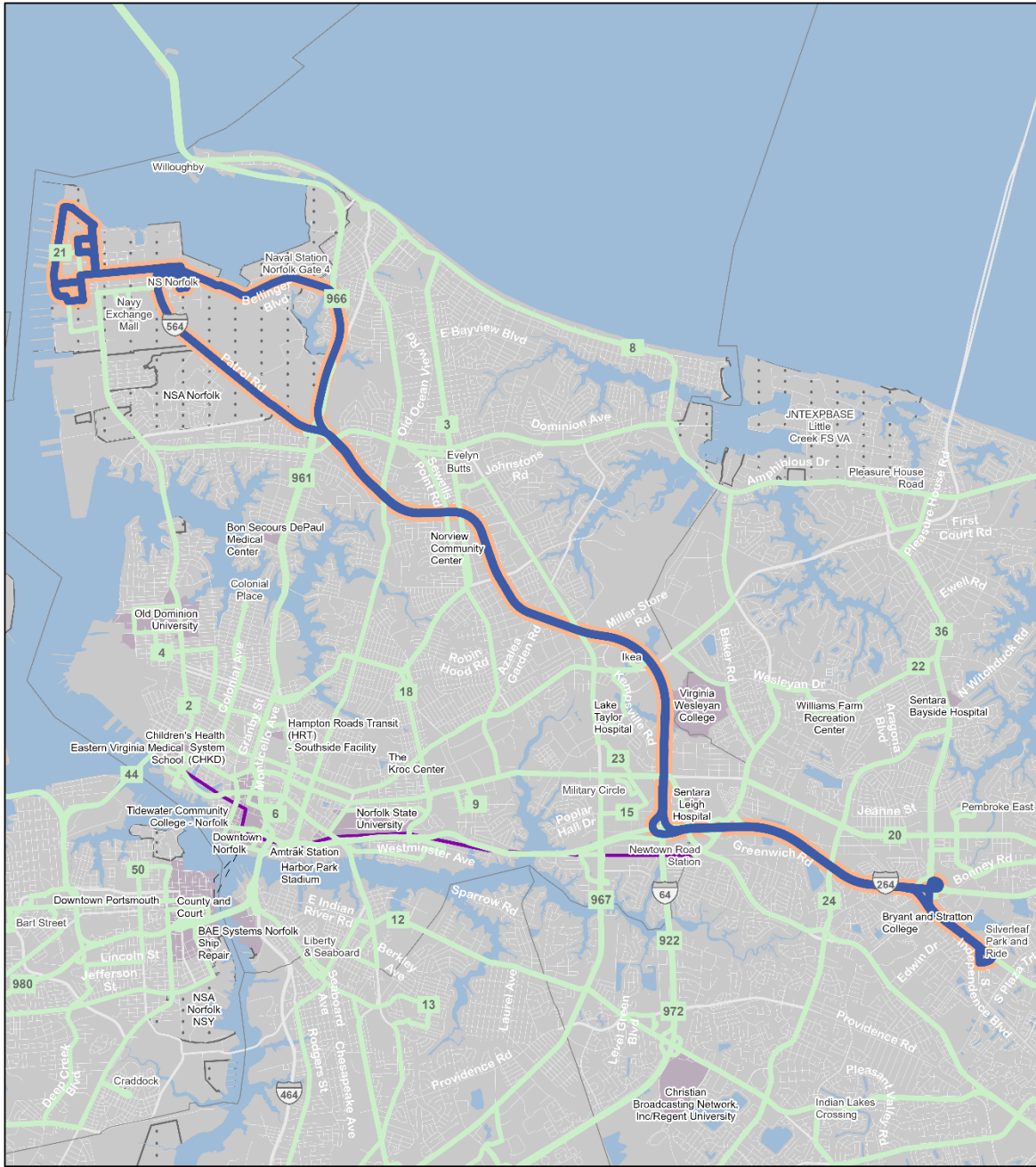
- The additional trips will be added to meet shift-specific demand.

Route 430

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One trip is added in the early period. One PM peak trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 919




Route 919

Focus Route


-  Planned Alignment
-  Existing Alignment


 Planned System

 Light Rail

 Ferry

 Military Base

 Activity Center

 City Boundary



Route 919

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Silverleaf Park & Ride / Naval Station Norfolk Gate 4	Silverleaf Park & Ride / Naval Station Norfolk Gate 4
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:10 a.m. - 7:26 a.m.; 2:54 p.m. - 5:03 p.m.	5:10 a.m. - 7:26 a.m.; 2:54 p.m. - 4:13 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	2 Trips	2 Trips
	Midday	-	-
	PM Peak	4 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Note	
Service on this route is currently suspended due to low ridership during the Covid-19 pandemic (as of November 2021).	

Service Changes

- The 3:18 p.m. trip on MAX Route 919 will be eliminated.



Justification

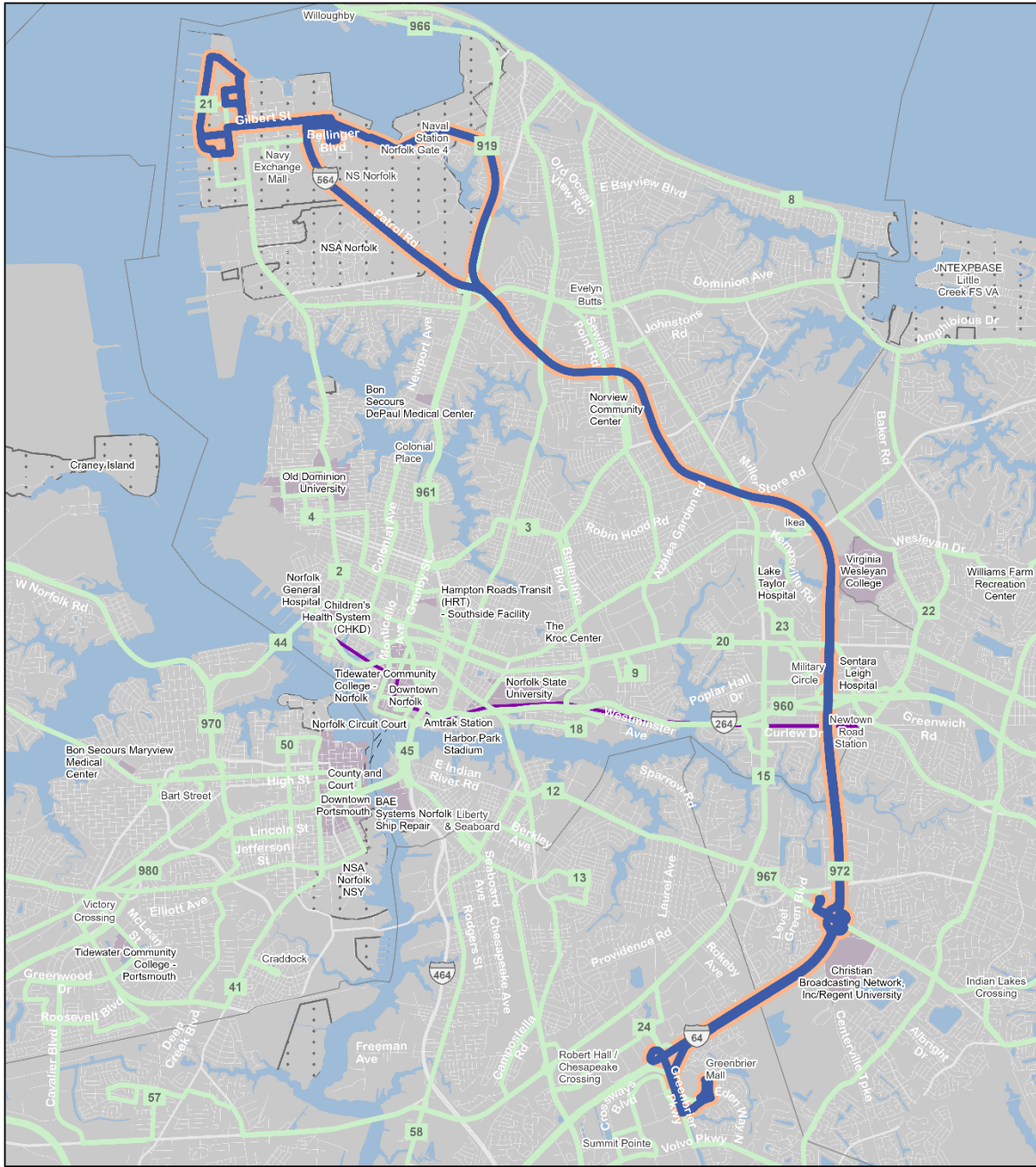
- Few passengers utilize the 3:18 p.m. trip on the current MAX Route 919 service. The resources from this trip will be used more effectively elsewhere in the system.

Route 919

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One PM peak period trip is removed.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 922



Route 922

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 922

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
To / From	Existing	Planned
	Greenbrier Mall Park & Ride / Naval Station Norfolk Gate 4	Greenbrier Mall Park & Ride / Naval Station Norfolk Gate 4
Jurisdictions	Chesapeake, Norfolk, Virginia Beach	Chesapeake, Norfolk, Virginia Beach

Level of Service			
Span			
	Existing	Planned	
Weekday	5:00 a.m. - 7:13 a.m.; 2:55 p.m. - 4:42 p.m.	5:00 a.m. - 6:10 a.m.; 2:55 p.m. - 3:45 p.m.	
Saturday	-	-	
Sunday	-	-	
Headway			
	Existing	Planned	
Weekday	Early	3 Trips	3 Trips
	AM Peak	1 Trip	-
	Midday	-	-
	PM Peak	3 Trips	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Note
Service on this route is currently suspended due to low ridership during the Covid-19 pandemic (as of November 2021).

Service Changes

- The 6:10 a.m. and 3:44 p.m. trips on MAX Route 922 will be eliminated.



Justification

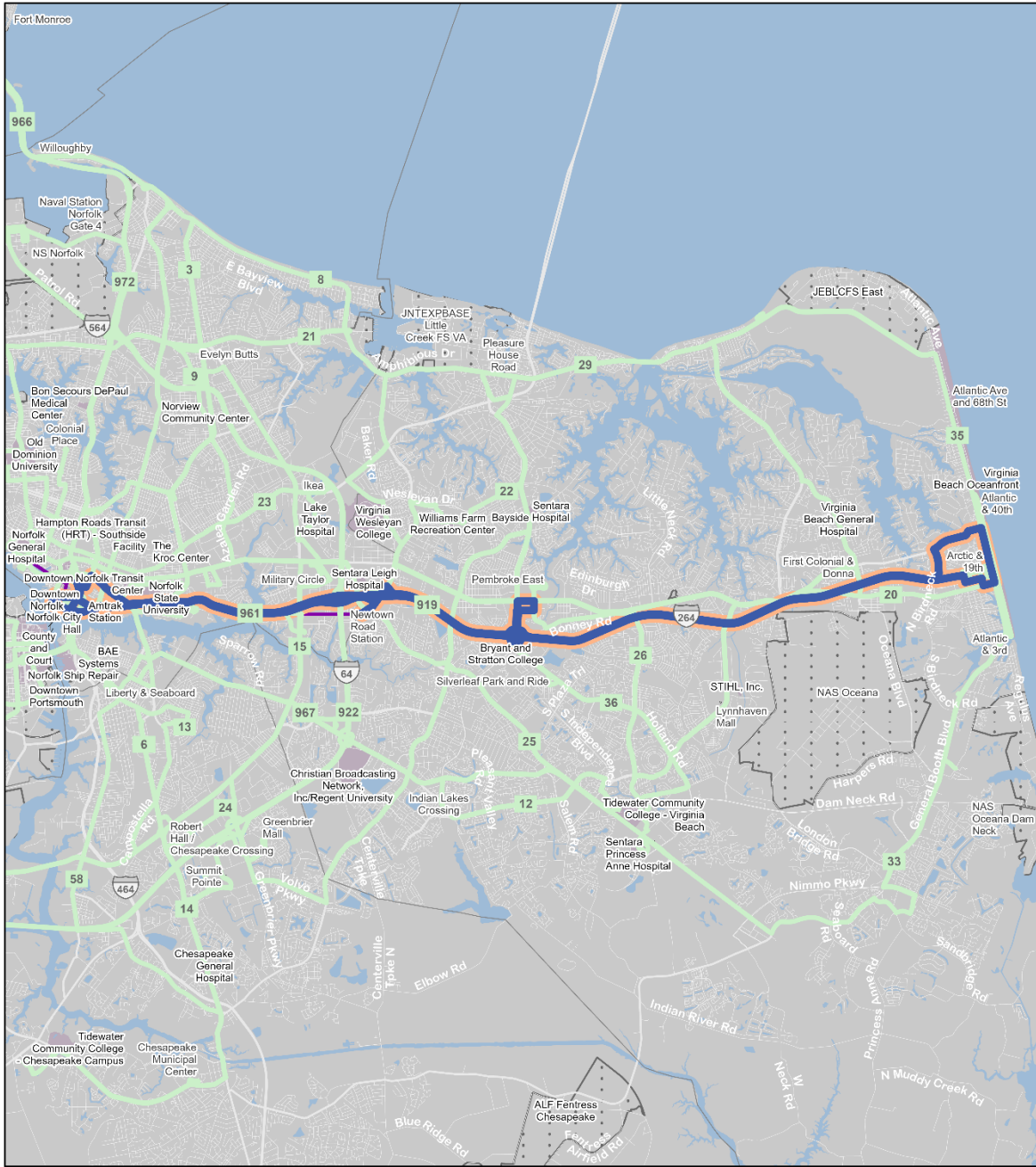
- Few passengers utilize the 6:10 a.m. and 3:44 p.m. trips on the current service. The resources from these trips will be used more effectively elsewhere in the system.

Route 922

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is removed. One PM peak period trip is removed.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 960



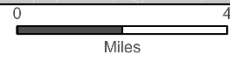
Route 960

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 960

Service Classification
Limited/Express

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk to Virginia Beach	Norfolk to Virginia Beach
Jurisdictions	Norfolk, Virginia Beach	Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
	Weekday	5:35 a.m. - 8:19 p.m.	5:00 a.m. - 9:00 p.m.
	Saturday	6:30 a.m. - 8:19 p.m.	5:00 a.m. - 9:00 p.m.
	Sunday	7:50 a.m. - 8:44 p.m.	5:00 a.m. - 9:00 p.m.
Headway			
		Existing	Planned
Weekday	Early	60	60
	AM Peak	60	60
	Midday	60	60
	PM Peak	60	60
	Evening	60	60
	Late Night	-	-
Saturday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	60

Service Changes

- Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.
- Service will operate hourly from 5:00 a.m. to 9:00 p.m. seven days a week.



Justification

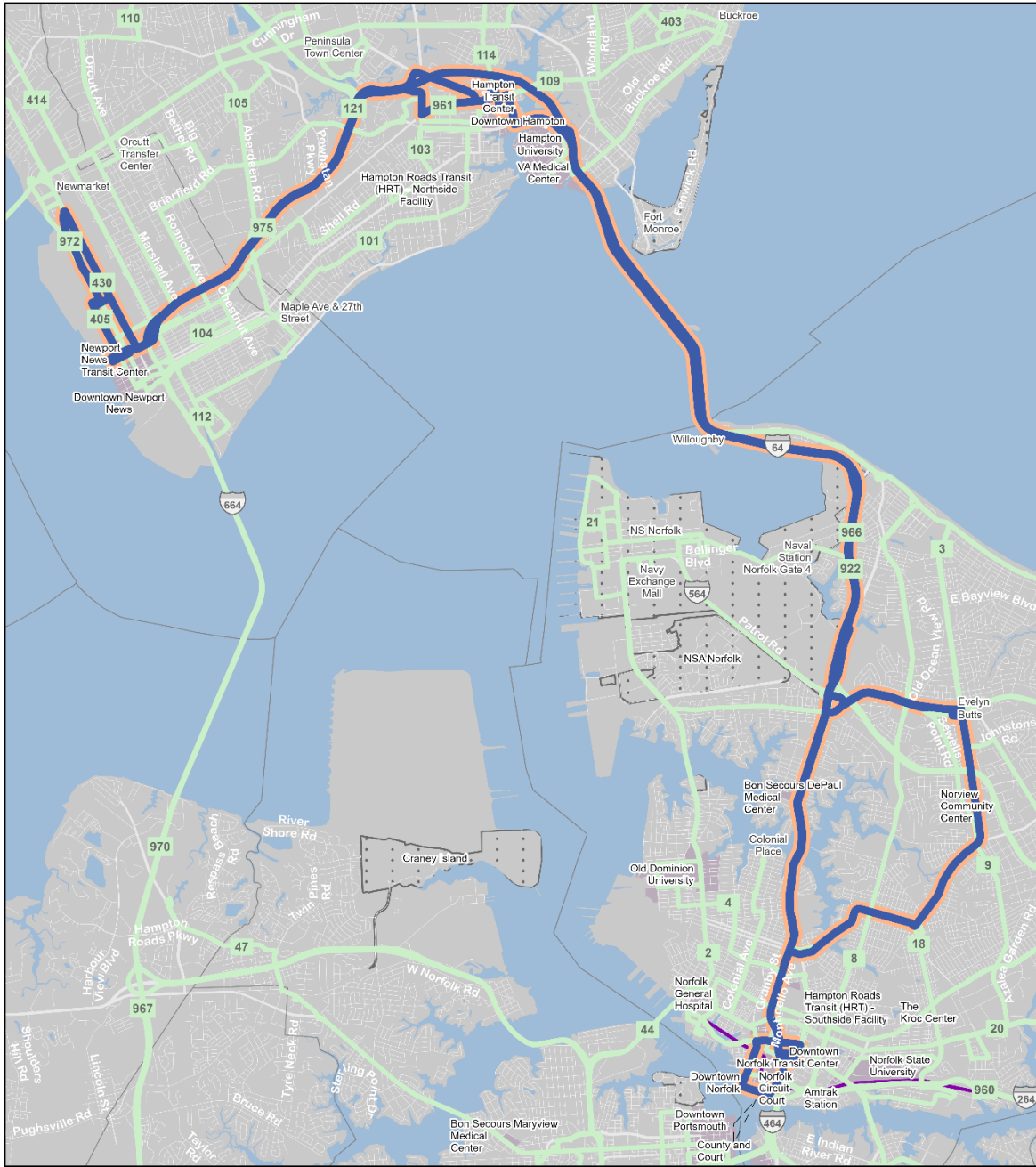
- Extending the span of service will allow more riders with earlier or later shift times at the Oceanfront to use the express MAX Route 960 service in lieu of Route 20 for faster trips. Now that MAX Route 960's fare has been lowered to that of regular fixed-route service (as of November 2021), it will become more attractive for riders, and the span increase is warranted. The performance will be monitored to determine whether any increases in service are warranted due to new demand.

Route 960

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	(This change will technically occur towards the end of FY 2022) Service to Arctic Avenue & 19th Street will be eliminated. The new terminal point at the Oceanfront will be on Parks Avenue near the Virginia Beach Convention Center.	✓		✓
FY 2024	Improve span to 5:00 a.m. to 9:00 p.m. every day.		✓	
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 961






Route 961

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 961

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Newport News / Hampton / Norfolk	Newport News / Hampton / Norfolk
Jurisdictions	Norfolk, Hampton, Newport News	Norfolk, Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
	Weekday	4:55 a.m. - 11:12 p.m.	4:55 a.m. - 11:12 p.m.
	Saturday	4:58 a.m. - 10:57 p.m.	4:58 a.m. - 10:57 p.m.
	Sunday	7:00 a.m. - 8:58 p.m.	7:00 a.m. - 8:58 p.m.
Headway			
		Existing	Planned
Weekday	Early	30	30
	AM Peak	30	30
	Midday	30	30
	PM Peak	30	30
	Evening	60	60
	Late Night	60	60
Saturday	Base	40	40
	Non-Base	60	60
	Early / Late	-	-
Sunday	Base	60	60
	Non-Base	60	60
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

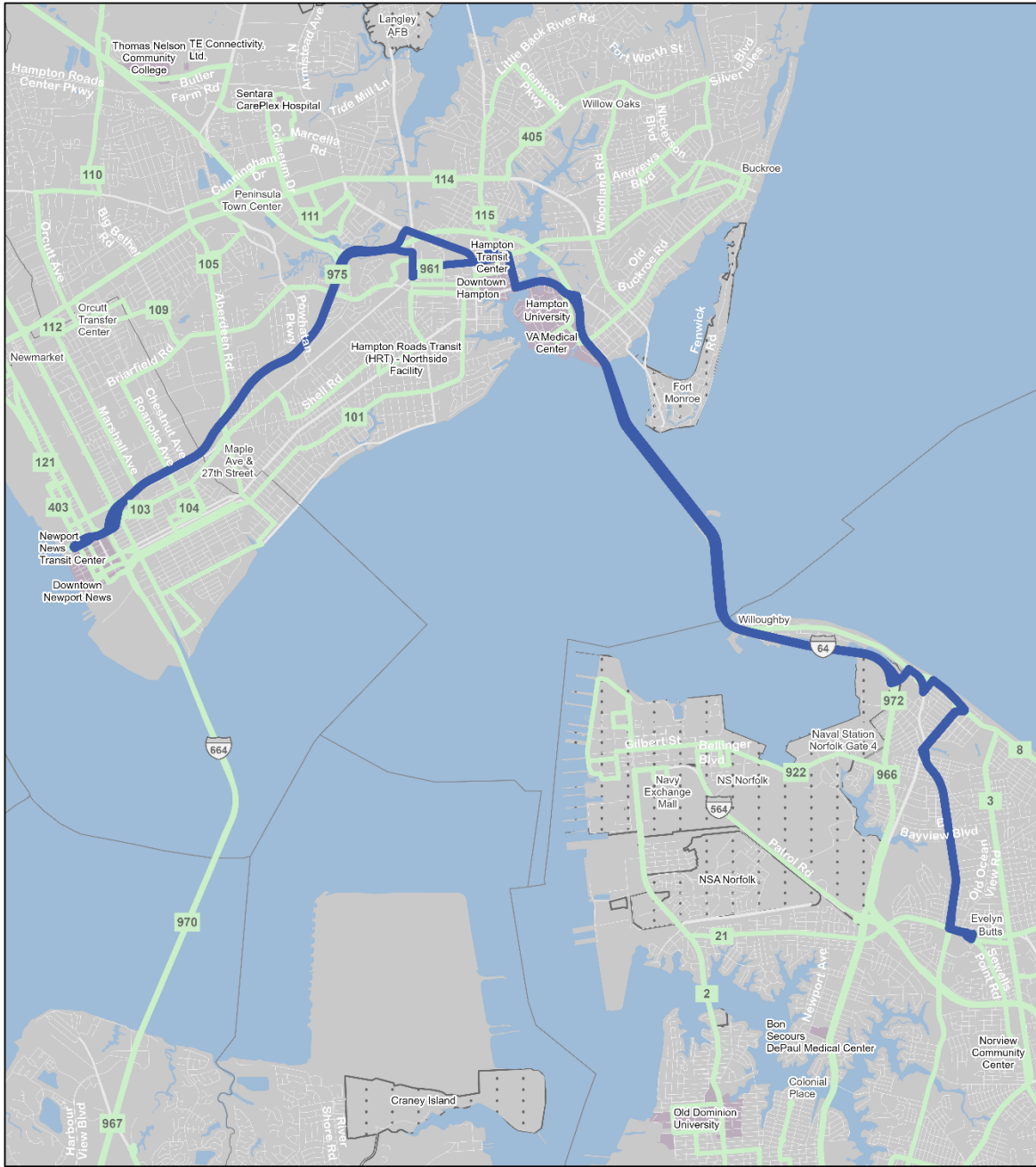
- MAX Route 961 service fulfills a need in terms of getting employees to work throughout the day and the service provided will remain unchanged. With the recent lowering of MAX Route 961 fare to that of regular fixed-route service (as of November 2021), the performance will be monitored to determine whether any increases in service are warranted due to new demand.

Route 961

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 962






Route 962

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 962

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Newport News / Hampton / Evelyn T. Butts Avenue
Jurisdictions	-	Norfolk, Hampton, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		-	5:30 a.m. - 6:30 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	-	60
	AM Peak	-	60
	Midday	-	60
	PM Peak	-	60
	Evening	-	60
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- This is a new MAX service that will connect Evelyn Butts Transit Center to Hampton and Newport News. Service will operate hourly on weekdays from 5:30 a.m. to 6:30 p.m..



Justification

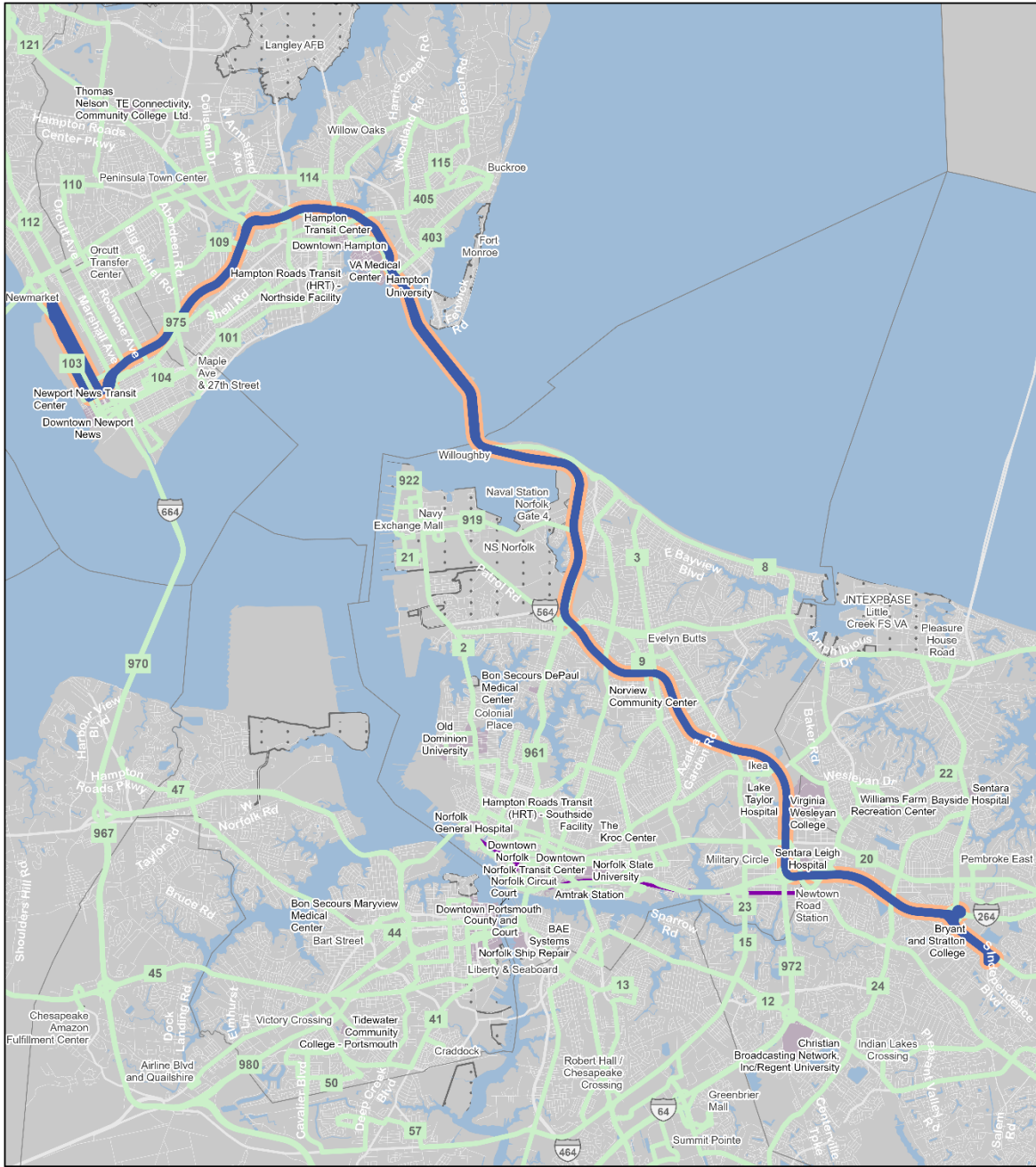
- This new route will allow for more convenient and frequent connections from the northern portion of Norfolk including the Little Creek corridor to the Peninsula (combined with other existing MAX routes).

Route 962

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service not yet implemented.			
FY 2024	Service not yet implemented.			
FY 2025	Introduce service on weekdays from 5:30 a.m. to 6:30 p.m., operated hourly.	✓	✓	✓
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 966



Route 966

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Base
- Activity Center
- City Boundary



Route 966

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Silverleaf Park & Ride / Newport News Transit Center	Silverleaf Park & Ride / Newport News Transit Center
Jurisdictions	Newport News, Virginia Beach	Newport News, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:20 a.m. - 6:31 a.m.; 3:40 p.m. - 5:03 p.m.	5:20 a.m. - 7:00 a.m.; 3:40 p.m. - 5:45 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	2 Trips	2 Trips
	AM Peak	-	1 Trip
	Midday	-	-
	PM Peak	2 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One AM peak trip and one PM peak trip will be added to MAX Route 966.



Justification

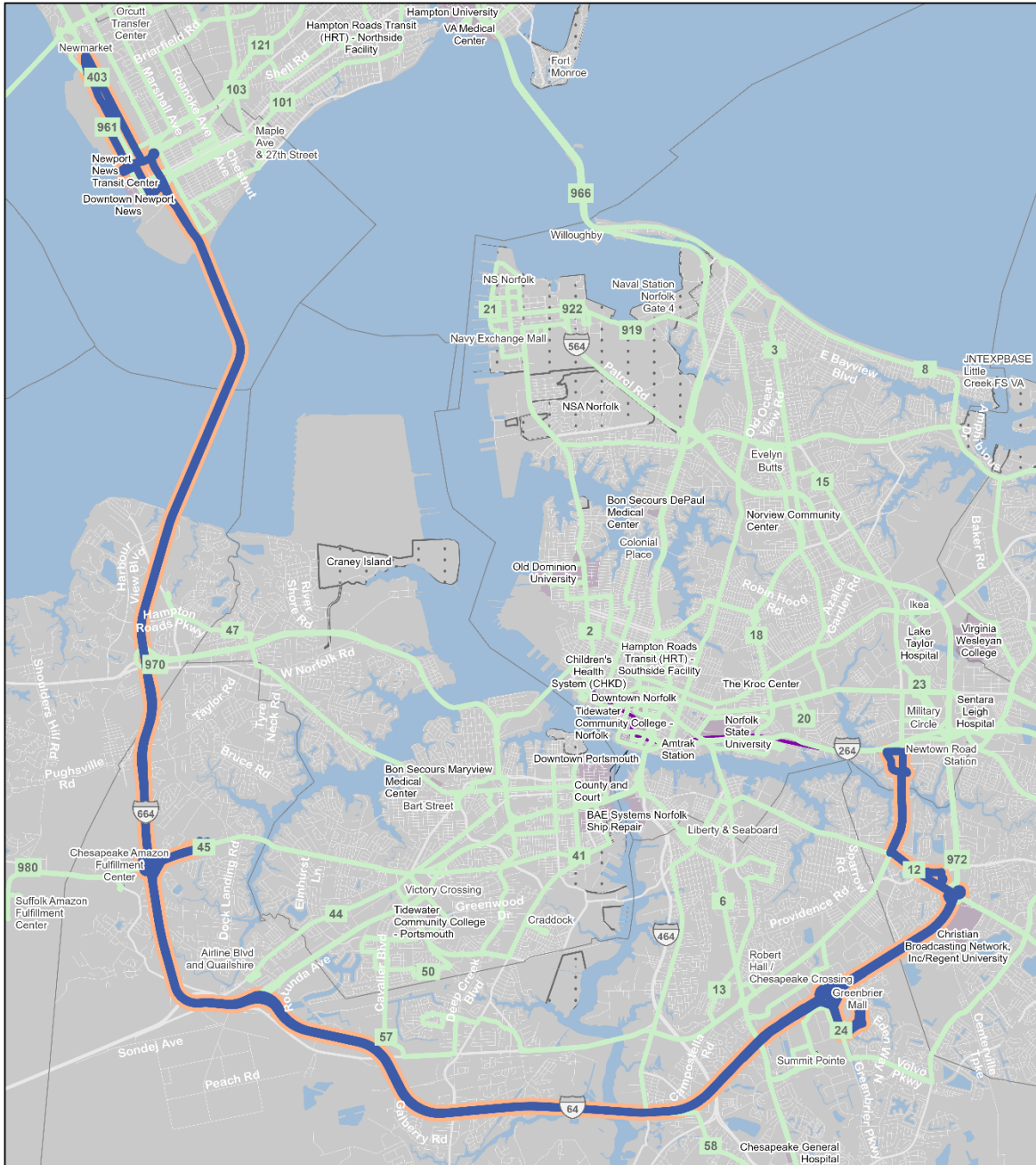
- The additional trips will be added to meet shift-specific demand.

Route 966

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added. One PM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 967



Route 967

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry
- Military Base
- Activity Center
- City Boundary



Route 967

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Virginia Beach / Chesapeake / Newport News	Virginia Beach / Chesapeake / Newport News
Jurisdictions	Chesapeake, Newport News, Norfolk, Virginia Beach	Chesapeake, Newport News, Norfolk, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		4:25 a.m. - 7:09 a.m.; 3:00 p.m. - 6:24 p.m.	4:25 a.m. - 7:09 a.m.; 3:00 p.m. - 6:24 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	6 Trips	6 Trips
	AM Peak	-	-
	Midday	-	-
	PM Peak	7 Trips	7 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- No alignment or level of service changes are proposed.

Justification

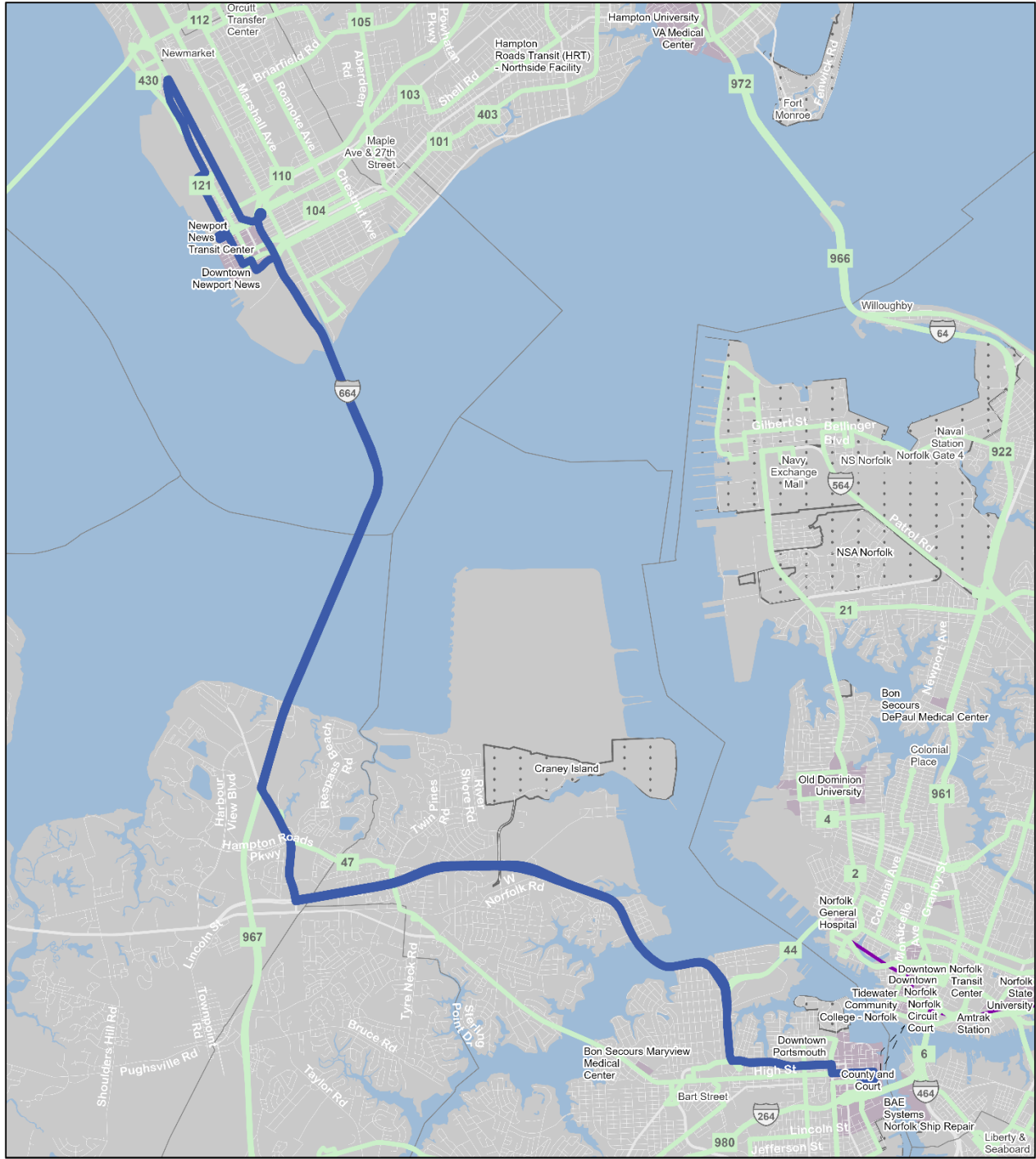
- MAX Route 967 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

Route 967

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes to existing alignment or level of service.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 970



Route 970

Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Base
- Activity Center
- City Boundary



Route 970

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Portsmouth / Newport News
Jurisdictions	-	Portsmouth, Newport News

Level of Service			
Span			
		Existing	Planned
Weekday		-	6:00 a.m. - 6:00 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	-	4 Trips
	Midday	-	-
	PM Peak	-	4 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- New MAX Route 970 will be implemented in FY 2023 providing express service between Downtown Portsmouth and Downtown Newport News with a stop at the Park & Sail lot at the intersection of Court Street and Bart Street.
- Route 970 will operate Monday through Friday, with four trips operating during the morning and afternoon peak periods. Two trips will be provided in each direction.
- Route 970 is one option for future expansion of MAX service. In the next annual update, HRT will explore the possibility of providing service to Norfolk Naval Shipyard in Portsmouth. A survey is currently underway as of Fall 2021 asking customers about service to Norfolk Naval Shipyard. HRT will evaluate the route pattern for the new Route 970 which may include serving the Park and Sail lot at Court and Bart Streets and connecting to Newport News via I-264 to I-664.



Justification

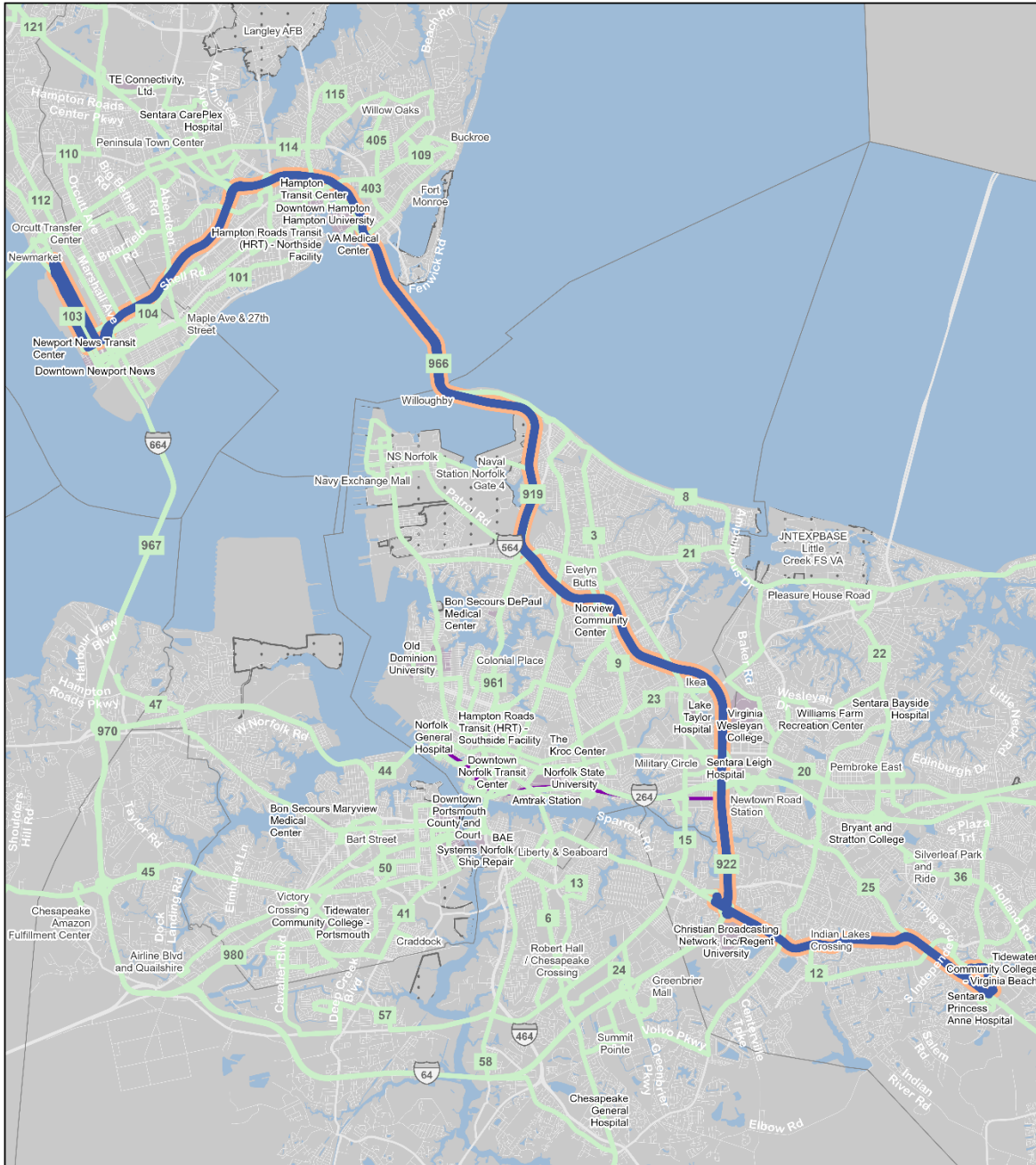
- Route 970 will serve a need for a new peak hour service between Downtown Portsmouth and Newport News Transit Center and Shipyard.

Route 970

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service on MAX Route 970 begins, operating between downtown Portsmouth and Newport News shipbuilding. Two AM peak trips and two PM peak trips in each direction.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			

Route 972



Route 972

Focus Route

- Planned Alignment
- Existing Alignment

— Planned System

— Light Rail

--- Ferry

 Military Base

 Activity Center

 City Boundary



Route 972

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Virginia Beach / Newport News	Virginia Beach / Newport News
Jurisdictions	Newport News, Virginia Beach	Newport News, Virginia Beach

Level of Service			
Span			
		Existing	Planned
Weekday		5:15 a.m. - 6:17 a.m.; 3:40 p.m. - 4:58 p.m.	5:15 a.m. - 7:30 a.m.; 3:40 p.m. - 5:30 p.m.
Saturday		-	-
Sunday		-	-
Headway			
		Existing	Planned
Weekday	Early	1 Trip	1 Trip
	AM Peak	-	1 Trip
	Midday	-	-
	PM Peak	1 Trip	2 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- One AM peak period trip and one PM peak period trip will be added to MAX Route 972.



Justification

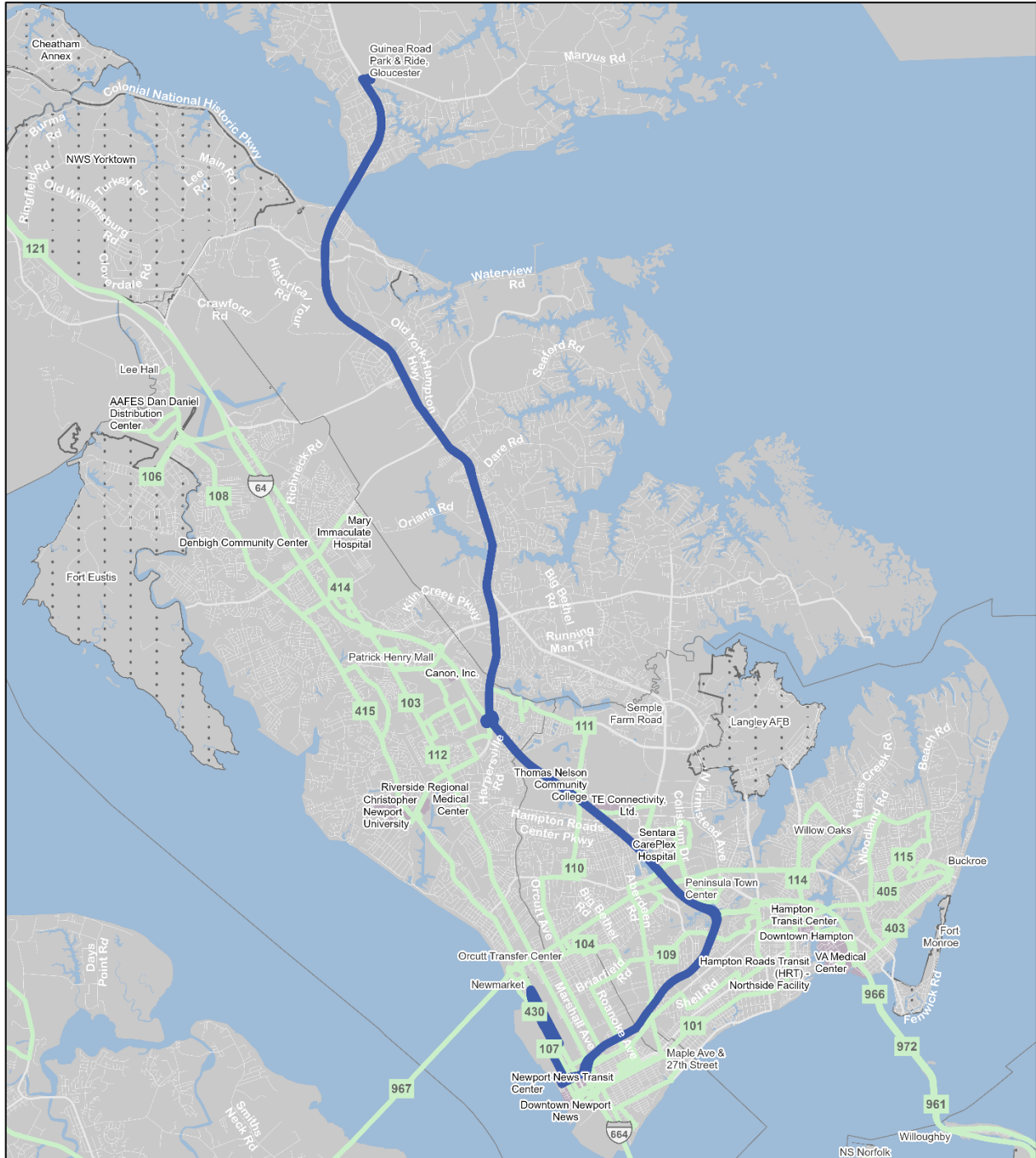
- The additional trips will be added to meet shift-specific demand.
- HRT was awarded a grant from the Commonwealth called the Interstate Operations and Enhancement Program to improve service on routes that operate on or run parallel to I-64: Routes 106, 107, and MAX Route 972. Improvements to MAX Route 972 will be partially paid for by this grant.

Route 972

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	One AM peak period trip is added. One PM peak period trip is added.	✓	✓	✓
FY 2024	No changes.			
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 975



Route 975

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary



Route 975

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	-	Gloucester / Newport News
Jurisdictions	-	Newport News, Gloucester

Level of Service			
Span			
		Existing	Planned
Weekday		-	6:00 a.m. - 9:00 a.m.; 3:00 p.m. - 6:00 p.m.
	Saturday	-	-
	Sunday	-	-
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	-	3 Trips
	Midday	-	-
	PM Peak	-	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	-	-
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- MAX Route 975 will provide new peak period directional commuter express service between Gloucester (VDOT Park & Ride at the intersection of Route 216-Guinea Rd and York Crossing) and the Newport News Shipyard via US-17 and I-64. The route will operate 3 trips in the AM peak and 3 trips in the PM peak.



Justification

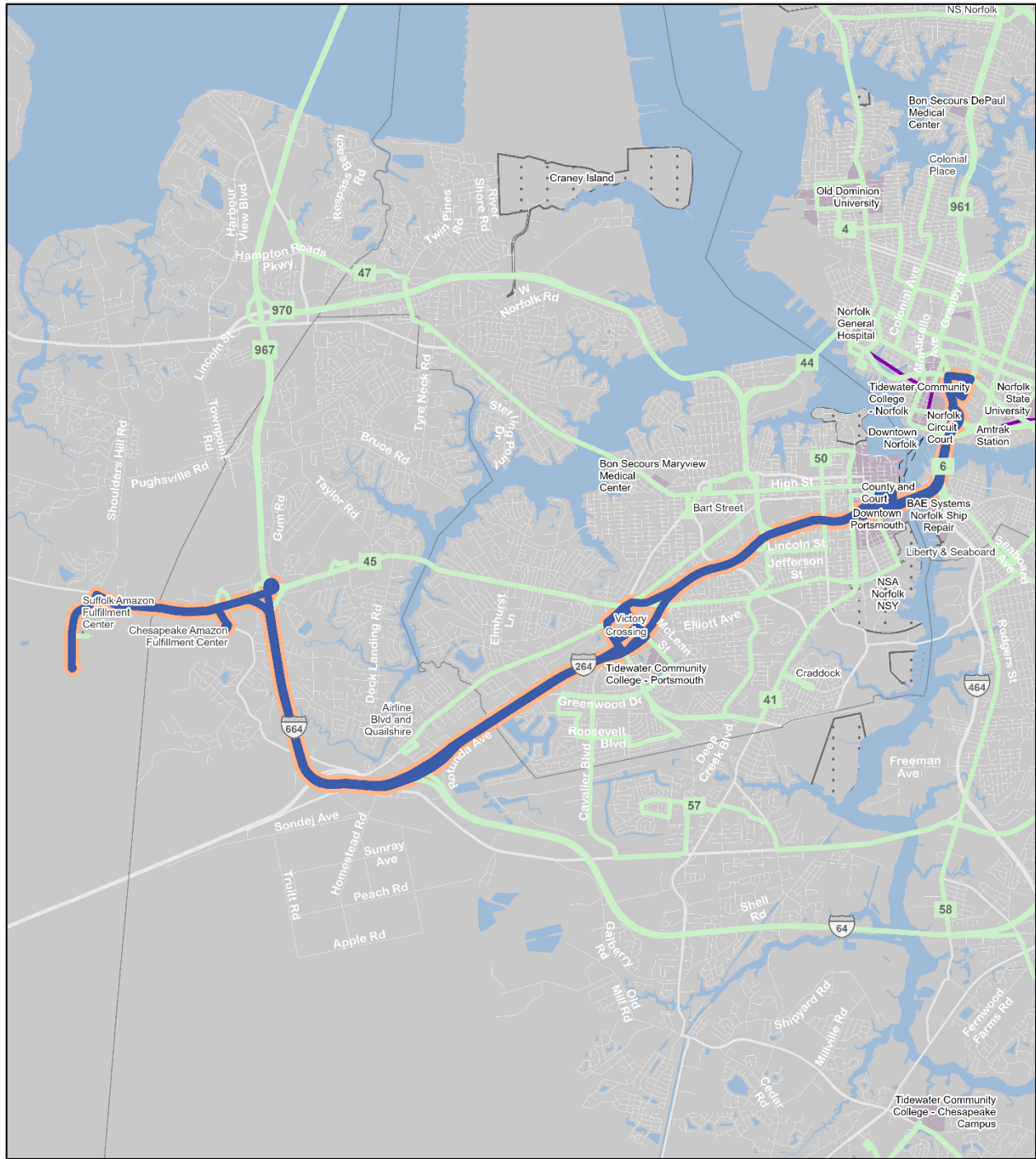
- The efficient movement of personnel to the Shipyard is critical to support national military readiness as well as for achieving the economic development goals of greater Hampton Roads. MAX commuter bus service via this new bus route can provide an alternative to automobile travel and a way for employees to avoid daily congestion and the Coleman Bridge toll.
- HRT was awarded a SMART SCALE grant from VDOT to support the purchase of two new buses for this route.

Route 975

Improvements by Year



Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	Service not yet implemented.			
FY 2024	Service not yet implemented.			
FY 2025	Service not yet implemented.			
FY 2026	MAX service from Gloucester begins operation. Three AM peak trips and three PM peak trips in each direction.	✓	✓	✓
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2032	No changes.			
Out Years	No changes.			




Route 980






Route 980

Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Base
-  Activity Center
-  City Boundary

Route 980

Service Classification	
Limited/Express	

Origin and Destinations & Jurisdictions Served		
	Existing	Planned
To / From	Norfolk / Portsmouth / Chesapeake / Suffolk	Norfolk / Portsmouth / Chesapeake / Suffolk
Jurisdictions	Norfolk, Portsmouth, Chesapeake, Suffolk	Norfolk, Portsmouth, Chesapeake, Suffolk

Level of Service			
Span			
		Existing	Planned
Weekday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Saturday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Sunday		5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.	5:45 a.m. - 6:30 a.m.; 5:45 p.m. - 6:30 p.m.
Headway			
		Existing	Planned
Weekday	Early	-	-
	AM Peak	2 Trips	3 Trips
	Midday	-	-
	PM Peak	2 Trips	3 Trips
	Evening	-	-
	Late Night	-	-
Saturday	Base	4 Trips	6 Trips
	Non-Base	-	-
	Early / Late	-	-
Sunday	Base	4 Trips	6 Trips
	Non-Base	-	-
	Early / Late	-	-

Service Changes

- The new Amazon facilities in Chesapeake and Suffolk are scheduled to open in early 2022. MAX Route 980 will be introduced in early 2022, dependent upon when the Amazon facilities open, with four trips per day and will be monitored for performance. Service is planned to be increased to six trips per day depending on the route's performance.
- All routes which serve Victory Crossing, including MAX Route 980, will be evaluated within the context of the new Rivers Casino Portsmouth, scheduled to open in late 2022 and located adjacent to Victory Crossing. As HRT learns more about the plans for the casino, routes may be adjusted to better accommodate the needs of patrons and employees.

Justification

- Amazon is bringing hundreds of new jobs to Hampton Roads. The new route will help connect workers to jobs from across the region via the express MAX Route 980 and eventually via the extended Route 45 as well. This will provide economic benefit to the region. Once MAX Route 980 begins service it will be monitored for performance.

Route 980

Improvements by Year

Fiscal Year	Improvement Description	Service Target Reached		
		Alignment	Span	Headway
FY 2023	No changes.	✓		
FY 2024	Two additional trips will be added to the MAX Route 980, depending upon initial service performance.		✓	✓
FY 2025	No changes.			
FY 2026	No changes.			
FY 2027	No changes.			
FY 2028	No changes.			
FY 2029	No changes.			
FY 2030	No changes.			
FY 2031	No changes.			
FY 2023	No changes.			
Out Years	No changes.			

6.7. RTS Implementation

Regional Backbone and Limited/Express routes will provide access to high-quality transit throughout the region as discussed above. This section outlines phasing of the RTS Program implementation and its component parts. HRT will implement the RTS with new branding and marketing as the “757 Express.” There are many component parts and several factors that influence the phasing and implementation of the RTS.

6.7.1. Service Grouping

The implementation of the RTS is primarily designed around three groups of regional transit service improvements labeled as Group A (Peninsula), Group B (select Southside), and Group C (select Southside). Grouping is the dominant factor that influences phasing of the overall Program, as the improvements within a group are dependent upon one another and should be implemented concurrently.⁹ Each group consists of Regional Backbone and/or Limited/Express routes which also have associated Local Priority and Coverage routes.

The three groups of service improvements are shown in **Figure 6-7** and **Figure 6-8**. The routes included in each group are listed in **Table 6-14**.

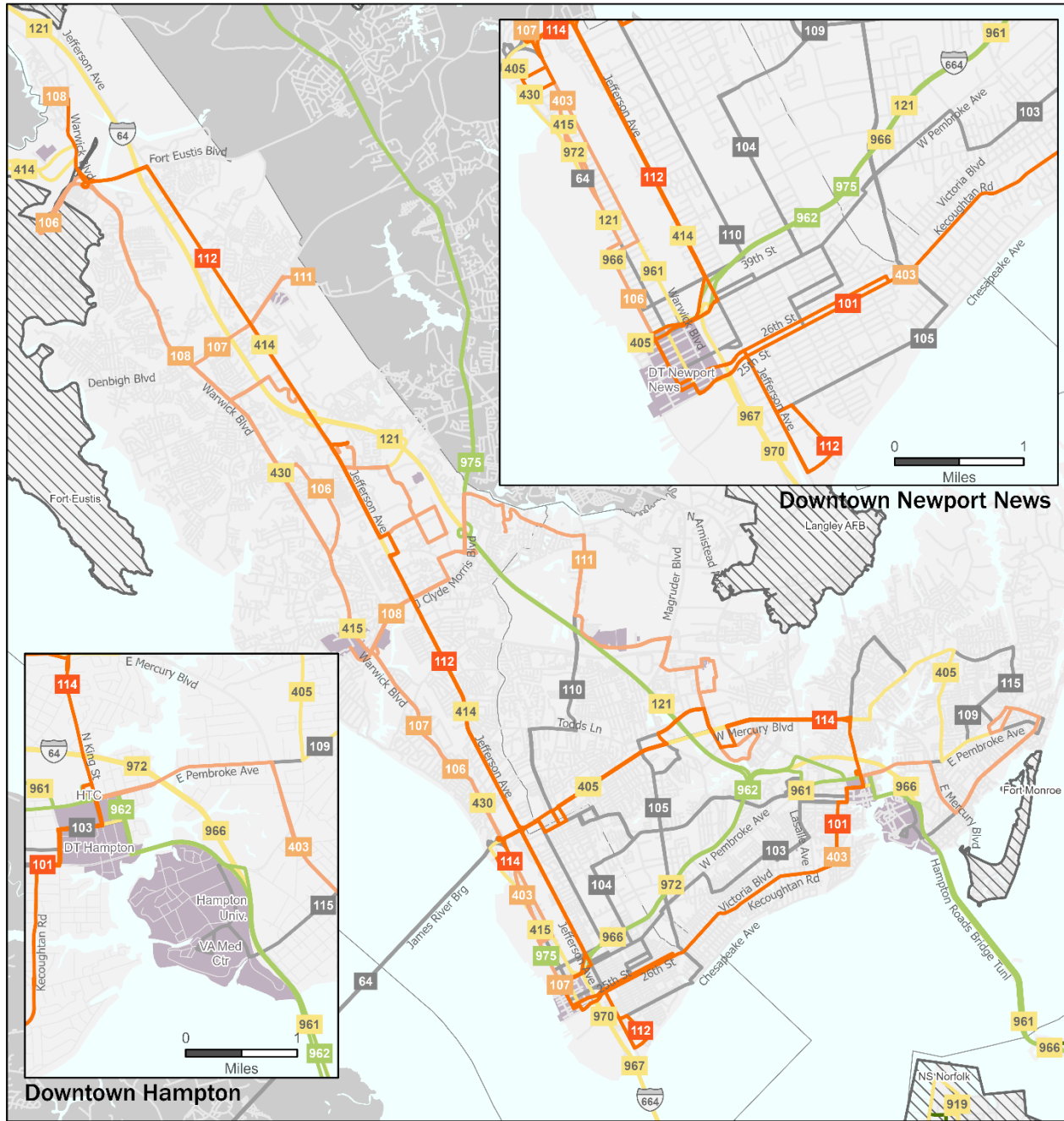
Table 6-14: Phasing Groups

Group A (FY 2023)		Group B (FY 2024)		Group C (FY 2025)	
Program Funded	Related Routes	Program Funded	Related Routes	Program Funded	Related Routes
Route 101		Route 1 Route 36	Route 27	Route 2	
Route 112		Route 45 Route 47	Route 41 Route 43 (eliminated) Route 44 Route 50 Route 57	Route 3	Route 5 (eliminated)
Route 114		Route 15		Route 8	
Route 121		Route 20		Route 21	
Route 403				Route 962	
Route 405				Route 975 ¹⁰	
Route 414					
Route 415					
Route 430					
Route 919					
Route 922					
Route 960					
Route 961					
Route 966					
Route 967					
Route 970					
Route 972					
Route 980					

⁹ There are several routes which are being realigned and segments of routes are being taken over by other routes. Because of this, the phasing of the route changes needs to consider how some route changes are interdependent with other services. This is one justification for bundling routes into “buckets” that group together routes whose alignment changes should happen simultaneously to maintain coverage and mobility in the system.

¹⁰ Route 975 will not start service until FY 2026.

Figure 6-7: Grouping - Peninsula



Group A

- Regional Backbone Routes
- Limited/Express Routes
- Other Related Routes

Group C

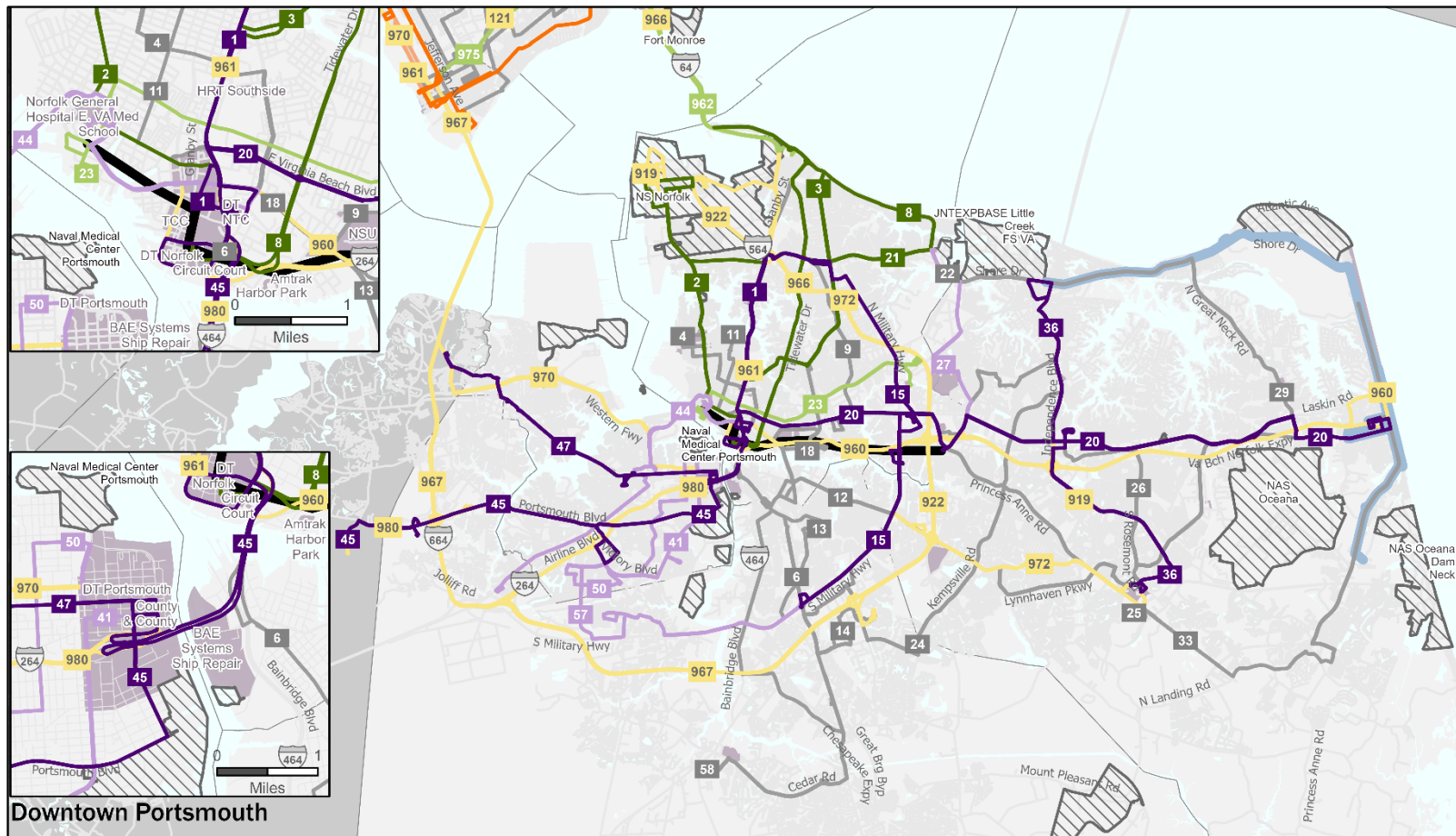
- Limited/Express Routes (to be implemented in FY 2025 and FY 2026)

— Other HRT Routes

PENINSULA: Hampton Roads Regional Transit Program Grouping



Figure 6-8: Grouping - Southside



Group A

- Regional Backbone Routes
- Limited/Express Routes
- Other Related Routes

Group B

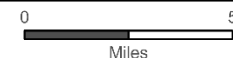
- Regional Backbone Routes
- Other Related Routes

Group C

- Regional Backbone Routes
- Limited/Express Routes

Other Services

- Other HRT Routes
- Trolley
- Light Rail
- - - Ferry



SOUTHSIDE: Hampton Roads Regional Transit Program Grouping



6.7.2. Additional Phasing Factors

In addition to grouping RTS services, other factors that influence phasing and implementation of the Program include:

- Schedule of availability of Hampton Roads Regional Transit Fund moneys and other requisite funding.
- Implementation feasibility based on vehicle procurement schedules, staffing, and other operational action plans, policies, and investments for successful marketing and roll-out of service improvements.
- Environmental or market conditions that are outside HRT's control, for example impacts on supply chains that could impact the delivery of bus orders on time or contract services due to on the COVID-19 public health emergency.
- Bus operator availability. As with other industries, the COVID-19 public health emergency has had disruptive impacts on HRT staffing levels. This has necessitated operating a Service Reliability Plan, with reduced service levels to better match operator availability and maintain dependable schedules. Recruitment and retention of bus operators needed to emerge from the Service Reliability Plan and meet the RTS staffing needs outlined in **Table 6-15** will directly influence Program implementation.

6.7.3. Timing and Components for Start-Up and Ongoing Operation

The timeframe for the start-up of revenue service is distinct for each group as noted in **Section 6.7.1**. Group A is targeted to begin revenue service in October 2022, dependent on bus operator availability; Group B in October 2023; and Group C in October 2024.

This means the RTS Program will be implemented across the next several years of the Transit Strategic Plan. This also requires that different activities will take place concurrently in order to support the phased start-up and ongoing operation of each of the three groups of service expansion.

Implementing the entire RTS Program is a major undertaking with many component parts. HRT will initiate and complete activities in several categories that are discussed in more detail below, with the goal being to successfully support the phased (grouped) implementation of the RTS. These activities include (but are not limited to):

- New bus purchases
- Manufacturing and installation of bus shelters
- Upgrades to technology infrastructure
- Installation of new bus stop signage
- Real-time passenger information displays at transit centers
- Completing the replacement of facilities, each with distinct planning, engineering and construction needs.

As mentioned in **Section 6.4**, the Program will be referred to as the "757 Express"

(**Figure 6-9**). RTS implementation includes both capital projects and operating and maintenance. Capital projects are made up of investments in physical assets. This includes items like acquisition of rolling stock (for revenue service as well as non-revenue support vehicles), the purchase and installation of passenger amenities (e.g., shelters, benches, trash receptacles, etc.), construction of new bus operating facilities, and investments in technology infrastructure so that passengers have the ability to access real time information and enhanced fare systems. In

Figure 6-9: Current 757 Express Logo



In addition to being documented in this Transit Strategic Plan, all RTS capital projects are reflected in HRT's FY 2021-2031 Capital Improvement Plan (CIP).

Operating and maintenance (O&M) expenses are investments that support day-to-day operations, including items such as bus operators, mechanics, fuel, and cleaning. Below is a representative list of the types of O&M costs involved with RTS implementation:

- Facility landscaping, janitorial services, HVAC maintenance, and ongoing utility costs.
- Bus stop and bus shelter cleaning and trash pick-up.
- Bus stop signage maintenance and replacement.
- On-board technology equipment maintenance, yearly software upgrades, farebox maintenance.
- Safety and Security certifications.
- Threat and vulnerability assessments per state and federal regulations.
- Fire & Life Safety and Security code and regulation compliance assessments.
- Safety and Security Management Plan (SSMP).
- Conducting hazard analyses for new bus routes and changes in existing routes, including the placement of new bus shelters.
- Website rebranding and update.
- Integrating Info Web (GTFS Real Time) into GoHRT.com.
- Printing of customer schedules and system maps.
- Market research and outreach.
- Rebranding of buses for Regional Backbone routes.
- Maintenance of Ticket Vending Machine (TVMs) at new passenger facilities.
- Maintenance of real time passenger information displays at Transit Centers.
- Pavement maintenance at all bus loops and park-and-rides at transit centers.
- Maintaining bus infrastructure such as security cameras, WiFi, Automatic Passenger Counters, Automated Vehicle Location, etc.
- IT software and hardware upgrades.

The components necessary for successful RTS start-up and ongoing operations generally fall into one of five main categories: **Rolling Stock, Human Resources, Technology, Facilities, and Communications and Marketing.**



Rolling Stock

Purchasing **New Buses** to support the 757 Express is essential for success. The Program requires a total of 48 additional buses. Group A requires 24 buses (20 for operation, 4 spares); Group B requires 12 buses (10 for operation, 2 spares); and Group C requires 12 buses (10 for operation, 2 spares). As reflected in HRT's Capital Improvement Plan (FY 2023 – FY 2032), a combination of funding from federal, state, and Hampton Roads Regional Transit Fund sources is planned to support these new bus purchases. Group A was already allocated funding in the first half of FY 2022, with HRT planning to submit a request to HRTAC for Group B in the second half of FY 2022. Six additional paratransit vehicles, with a five-year replacement cycle, are also part of the RTS. Funding for these paratransit vehicles will also be requested by HRT in the second half of FY 2022.

The typical time span from the placement of a new bus order to delivery and getting the bus ready to deploy is approximately 24 months. There will be three rounds of bus procurement (one for each group) to support the phased start-up of the RTS to ensure that new buses are on-site and ready to roll into revenue service when needed. The estimated useful life for a new 40' diesel bus is 12 years or 500,000 miles, whichever comes first.

Non-Revenue Support Vehicles are also part of the RTS. These are service trucks, vans, and sedans (26 in total) that will be utilized by bus supervisors, security personnel, mechanics, and facility maintenance personnel serving out in the field to support operations.

Figure 6-10: Mock-Up of RTS Livery



Human Resources

Hiring, training and retention of a viable workforce is paramount to the success of the 757 Express. Indeed, this is the most mission-critical RTS component and **Workforce Success** is an agency core value: *HRT is committed to the effective hiring, training, and ongoing success of every team member.*

Similar to the phased approach for new bus purchases to ensure they are on-site and ready to go when needed, a phased approach is also part of meeting the **Human Resources** needs of the RTS Program. Only positions directly related and essential to RTS implementation are part of the Program. Program positions are listed in **Table 6-15**.

The biggest need is for **Bus Operators**, approximately 122 in total. As with other positions, these will be filled incrementally to match operating needs as Group A (approx. 37 operators); Group B (approx. 69 operators); and Group C (approx. 16 operators) come online. Positions that support start-up hiring, promotion, or specific projects (i.e., a Talent Acquisition Specialist, RTS Technology Project Manager, Outreach Coordinators and Facility Mechanics) will be temporary. There are additional recruitment costs such as job fairs, job board postings, background checks, DOT physicals, and drug tests.

Figure 6-11: Transit Operators



Table 6-15: Positions for RTS Implementation

Department	Position	# of Staff			
		FY 2022	FY 2023	FY 2024	TOTAL
Operations Staff					
Operations	Bus Operators	37	69	16	122
	Mechanics/Service/Cleaners	6	6	9	21
	Operations Supervisors - Bus/Maintenance	3	5	4	12
	Asst. Manager of Bus Operations	1	0	1	2
	Bus Training Instructor	1	0	0	1
	Operations Admin/Payroll Technician	0	1	1	2
	Operations Facilities Technician	0	0	1	1
Total Operations Staff		48	81	32	161
Administrative Support Staff					
Customer Relations	Customer Service - Reps/Leads/Liaison	0	5	0	5
Engineering & Facilities	Passenger Amenities Support Techs	6	0	0	6
	Facility Mechanics	0	3	1	4
Finance	Staff Accountant	0	0	1	1
Human Resources	HR Assistant/Specialists	3	0	0	3
OPPE	Management Analyst	1	0	0	1
	RTS Program Manager	1	0	0	1
Planning & Scheduling	Scheduler	0	1	0	1
Safety	Safety Specialist/Admin Support Tech	0	2	0	2
Security	Security - Asst. Manager/Specialist	0	2	1	3
	Transit Security Officer	0	2	2	4
Technology	ITS Network Security Engineer	1	0	0	1
	Client Technology Engineer	1	0	0	1
	Technology Helpdesk	1	0	0	1
Total Administrative Support Staff		14	15	5	34
Temporary Staff					
Engineering & Facilities	Facility Mechanics - Temp	0	0	2	2
Human Resources	Talent Acquisition Specialist - Temp	2	0	0	2
Marketing & Communications	Outreach Coordinators - Temp	2	0	0	2
Technology	RTS Technology Project Manager - Temp	1	0	0	1
Total Temporary Staff		5	0	2	7
TOTAL STAFF		67	96	39	202



Technology

Technology is another important category of the RTS Program. This includes tools that directly impact customers, like purchasing, installing and maintaining digital displays for bus arrival information and system alerts; Wi-Fi; and enhanced fare systems.

Mobile-based technology makes public transit more responsive to

the needs of riders and enhances the level of service they experience through innovative and regularized transit operations. This includes real-time information technologies and transit Wi-Fi amenity services that provides free and open internet connectivity service while riding on HRT vehicles or connecting at transit centers. Passenger Information Displays (PIDs) will deliver passengers scheduled and real-time route information, schedule changes, and safety or customer alerts and announcements utilizing a secured network environment. Among the earliest RTS technology projects is to deploy new PIDs at Hampton Transit Center, Newport News Transit Center, and Downtown Norfolk Transit Center. The HRT website will also benefit from a redesign to be more customer friendly. These improvements require a sustained investment into network infrastructure, computer hardware, and software to provide sustainable scalable benefits.

Figure 6-12: On-Board Vehicle Display



There are also other components that are typically behind-the-scenes and less visible, but just as important for operational success of the RTS Program. This includes items like cabling, firewalls, switches, cameras, access controls, phones, computers, printers, network security, cloud services, and licensing.



Facilities

Facilities is a category of the RTS Program, like Technology, that includes both customer-facing and behind-the-scenes components.

One of the key customer-facing components is a new **Bus Stop Amenity Program**. When fully implemented, the program includes more than 600 new amenities across the system including new shelters, benches, trash receptacles, and solar lighting. As part of the amenity program, HRT may make improvements in the public right of way across six cities, acquire property rights, and improve existing stops to enhance compliance with

Figure 6-13: Updated Passenger Waiting Facility with Solar-Powered Lights



the Americans with Disabilities Act. In addition, informational and wayfinding signage including real-time bus arrival at key locations is also included in the amenity program. HRT intends to maximize the number of amenities at each stop while working within given right of way constraints at each location. The amenity program also includes more frequent cleaning of bus stops by both contractors and HRT staff. This initiative includes newly formed rapid response HRT cleaning and maintenance crews.

The facilities category of the RTS Program also includes investments in several of HRT's **Major Transfer Hubs** where multiple routes intersect. As part of the RTS Program, the current on-street bus transfers at Evelyn T. Butts Transfer Center (Norfolk), at Robert Hall Transfer Center (Chesapeake), and at the transfer at Orcutt Avenue (Hampton) will be replaced with new facilities that may be constructed or leased. These transit hubs will include enhanced amenities to effectively support the RTS Program. In addition, transfer facilities in other cities are at various phases of development, especially in Portsmouth and Virginia Beach (see below). As new facilities advance in the planning process, the impacts to the RTS program will be evaluated. Similar to new bus purchases, these facilities projects will utilize a combination of federal, state, and Hampton Roads Regional Transit Fund resources.

- The City of Portsmouth will be closing the on-street bus transfer operation at County and Court Street within the next few years due to redevelopment of the County Street Municipal Garage. The City has been awarded a SMART Scale grant to relocate the bus transfer operation to the Park and Sail lot at Court and Bart Streets. This transfer facility will be an improvement over the current on-street operation and will also have park-and-ride accommodations. HRT will evaluate how this future facility can be accommodated within the RTS Program in the next annual update if the project has progressed by then.
- The City of Virginia Beach has informed HRT that the on-street transfer facility located at Arctic and 19th Street will no longer be available after June 1, 2022, due to nearby redevelopment activity. As a result, the City has requested this bus transfer facility be relocated to Parks Avenue near the Virginia Beach Convention Center. In support of the next annual TSP update, HRT will evaluate how a future facility in the general area may be accommodated in the RTS Program.

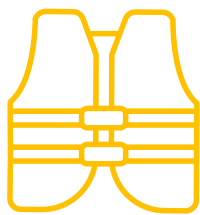
One of the largest regional investments to be made as part of the RTS Program is a **New Southside Bus Operating Division** that will relocate maintenance activities that are currently housed at the Parks Avenue facility in Virginia Beach. The Parks Avenue facility currently houses trolley operations during the summer months. The new

Figure 6-14: Rendering of New Southside Bus Operating Division



Southside Operating Division will address state of good repair issues and expansion needs that support RTS Group B and Group C, as well as enhance operational efficiency by drastically reducing deadhead miles. The new facility will accommodate year-round operations and be large enough to support the storage, maintenance, and operation of Group B and Group C in addition to trolley operations. HRT is conducting an electrification study that will consider costs, benefits, and opportunities to support a fleet transition to battery-electric buses beginning with the new Southside Operating Division. Battery electric buses, or zero-emission vehicles, enable bus fleet operators to eliminate the dependency on fossil fuels and to reduce operating costs while delivering clean, quiet transportation to the community. Once the new division is operational, HRT will repurpose the Parks Avenue site.

HRT has identified a parcel of land in the vicinity of Dam Neck Road and General Booth Blvd. The City of Virginia Beach’s Economic Development Authority has approved a resolution for the sale and purchase of the property by HRT. HRT is now working with the City to obtain a conditional use permit and site plan approval. It is anticipated that it will take six to eight months before the actual sale of the property can occur.



Safety and Security

Safety and Security elements of the RTS Program are based on the multiple functions required of Safety, Risk Management, and Security, by regulatory statute for upgrades, expansions, modernization, or construction of new systems and facilities. This includes a Safety and Security Certification, the process of verifying that safety and security requirements are included during the planning phase and through the life cycle of a project. Hazard analysis techniques are utilized for systems or equipment with safety critical or vital functions based on industry requirements and regulations for design, specification development, construction, testing and commissioning, and operation and maintenance; hazards are identified, assigned a risk rating and mitigations are applied to minimize potential risks to an acceptable level. Additionally, a Risk Exposure Analysis is utilized to determine the probability of occurring potential loss including liability issues and property loss or damage for projects and new assets. As a result of adding new assets, systems or

fixed facilities, insurance coverage must be assessed and adjusted, increasing existing premiums or potentially requiring new policies.

Additionally, in support of the agency goal of “safe and secure transportation for all customers” as it relates to the RTS, HRT will enhance security operations through the expansion of deployable field personnel and the recruitment of additional security administrators. HRT’s security posture will also become more resilient with updates to security technology and security infrastructure configurations.



Communications and Marketing

Communications and Marketing components of the RTS Program extend from supporting early start-up activities all the way through to full implementation and ongoing operational support. A communications and marketing plan has been established to guide the activities moving forward.

A recruitment advertising campaign will be targeted to help hire the workforce needed to operate the RTS. This will be a sustained effort to allow time to attract, hire and train new operators on a continual basis as the start-up of each RTS group unfolds. The existing campaign uses interstate billboards, television, newspaper, outdoor banners, social media, traditional radio, subscription services radio such as Spotify, career fairs, recruiting agencies, and the Norfolk DriveNow program which was set up to help potential operators prepare for and pass Commercial Drivers Licensing requirements.

Also concurrent with the start-up of each group of services, new branding and marketing of the 757 Express will include all forms of media in addition to bus wraps and new signage at bus stops and transit centers. The Program includes development, printing, and multi-media to disseminate schedules, system maps, and other information for customers and the public-at-large. Promotional campaigns and outreach teams will engage businesses and target markets in communities across Hampton Roads to promote utilization of the enhanced regional transit system. Podcasts and Facebook Live events that showcase transit from an executive level are another way to spread word and excitement. Social media will be used to reach the public and engage HRT employees. HRT will use both contracted and in-house services to complete RTS communications and marketing tasks.

An **ancillary component** to the RTS program is an alternative fuels study which will be completed to support due diligence related to provisions of Code of Virginia § 33.2-2600.1 C. which calls for giving priority, when possible, to cost-effective and sustainable investments that reduce or eliminate reliance upon diesel fuels.

Figure 6-15: Example of Potential 757 Express Bus Stop



6.8. RTS Resource Allocation

The allocation of funding (both capital and operating) and overall implementation of the RTS will be continuously guided by the following principles:

- Demonstrated fit of Program investments to the key factors and administrative requirements outlined in the legislation.
- Delivering results on-time and on-budget.
- Adherence to strategic bundling of services to support phased implementation.
- Adapting to feasibility of procurement schedules, staffing, and other operational action plans for successful marketing and roll-out of service improvements.
- Ensuring upkeep and the maintenance of a state of good repair over time.
- Using project delivery methods that most efficiently connect communities across the region with transit infrastructure and services.
- Protecting and enhancing the statutory flexibility and diversity of funding sources, financing, and procurement options to leverage resources and maximize the value of each available dollar.
- Ensuring balanced and equitable investments, including Title VI compliance, across the HRT service area.
- Fostering innovation and adhering to data-driven decision making, incorporating new technologies, and using robust methods to evaluate performance and ongoing service changes.
- Close collaboration with city partners for integration of Program investment strategies and related projects with local land-use policies, plans, and projects that expand access to safe and reliable transit for more segments of the Hampton Roads region and can support auxiliary private investments and economic activity.
- Connecting more workers to jobs, customers to businesses, and access to educational, retail, medical, recreational, and other opportunities that support quality of life and thriving local and regional economies.
- Support the 757 Recovery and Resilience Plan designed to reinvigorate the regional economy after the impacts of the COVID-19 pandemic.

Additionally, in authorizing the Hampton Roads Regional Transit Program and Fund, the Code of Virginia requires that Hampton Roads Regional Transit Fund disbursements shall be approved by HRTAC “consistent with the regional transit planning process developed pursuant to subsection D of § 33.2-286.” This is planning process is jointly defined by HRT, WATA, and Suffolk Transit and includes the development and implementation of a regional

subsidy allocation model and the distribution of funds for transit administered through HRTAC (though the use of the Fund applies only to Hampton Roads Transit).

In keeping with this regional transit planning process as it pertains to the development and implementation of a regional subsidy allocation model:

- Regional subsidy allocations will only apply to projects and services located in a transportation district in Hampton Roads created pursuant to § 33.2-1903.
- Regional subsidy allocations may not be used toward any projects or services not contained in the Hampton Roads Regional Transit Program as incorporated in this Transit Strategic Plan (TSP).
- For eligible projects and services, the maximum regional subsidy funding available and necessary to implement the Program may be utilized.
- Regional subsidy funding may be used toward eligible capital and operating expenses. A capital project is an investment in a physical asset like a bus, facility, bus shelters, benches, or property (leased or purchased) in support of the construction of other physical assets. Operating expenses are investments to support day-to-day operations, such as bus operators and mechanics, or fuel and cleaning.
- Regional subsidy funding may be used for state of good repair and for expansion of services and related capital projects. SGR projects typically deal with rehabilitating or replacing existing assets, for example purchasing a new bus to replace an old bus that is beyond its useful life. Expansion projects, on the other hand, add new capacity to the transit system, for example, increasing the number of bus shelters or building a new facility to operate and maintain expanded services.
- Regional subsidy funding may be used at 100 percent share of costs or may be used to match and leverage other funding. If used to match state funding, regional subsidy funding shall be counted toward meeting local match requirements. A mix of funding is not required.
- Allocations of regional subsidy funding are meant to enhance not reduce other funding used to support transit infrastructure and services across the transportation district. As regional subsidy funding is applied, it is prohibited for local funding for public transportation purposes to be reduced to an amount less than what was appropriated on July 1, 2019.
- The regional subsidy model was implemented beginning Fiscal Year 2021.

In keeping with the regional transit planning process as it pertains to the distribution of funds for transit administered through HRTAC:

- Distribution of funds shall be consistent with the regional transit planning policy and shall only be for core and connected regional services contained in the Program approved by the governing board of the transportation district.
- Such funds may not be used for other public transportation services (for example, local bus routes).
- Disbursement of regional funds shall not diminish the right of the eligible applicant to determine and utilize the most beneficial type of funding for each type of eligible project or service.
- Distributions of regional funding will not be used to reduce or replace total Local funding that has been utilized for public transportation as of July 1, 2019.
- Distributions of regional funding shall not impinge upon the right of the eligible applicant to use regional funding to participate in competitive state and federal grant programs, when appropriate, to effectively deliver projects and draw additional dollars into the region that would not otherwise be accessible.

6.8.1. Capital

RTS capital projects will utilize HRRTF funding and match this funding with federal and state sources, when feasible, to optimize the use of all available funding. These projects are reflected in the HRT FY 2023-2032 Capital Improvement Plan (CIP) and are also listed in **Table 6-16**. As HRT will be applying for more competitive grants to match HRRTF funds, these opportunities could change the make-up of how the projects noted in **Table 6-16** are funded in the future.

It is important to emphasize this is a *plan* for investing in RTS capital projects and not a budget; as real-world conditions influence projects, HRT will adapt RTS capital investment strategies. This is especially important in regard to the RTS facility projects (New Southside Bus Operating Division, Robert Hall Transfer Center, Evelyn T Butts, Bus Stop Amenity Program). Factors such as land costs, site constraints, and evolving technology needs will impact the cost of these projects. For example, the New Southside Bus Operating Division costs reflected in **Table 6-16** does not include the full range of costs associated with vehicle electrification and charge; HRT is pursuing a federal RAISE grant that would fund investments to accommodate battery-electric buses on-site but these costs are not part of the cost estimates in the TSP.

Table 6-16: RTS Program Capital Expenses and Funding

Item	Expenses (YOES\$ Millions)										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
New Bus Operating Division - Southside~	-	2.0	10.0	10.0	10.0	-	-	-	-	-	-
Transit Bus Expansion	6.6	6.7	-	-	-	-	-	-	-	-	-
Transit Bus Mid-life Repower	-	-	-	-	-	-	-	-	4.3	0.4	-
Robert Hall Transfer Center Replacement	-	-	5.8	-	-	-	-	-	-	-	-
Paratransit Fleet Expansion	0.5	-	-	-	-	-	0.5	-	-	-	-
Net Center Replacement	-	0.5	-	-	-	-	-	-	-	-	-
RTS Technology	0.5	-	-	-	-	0.4	-	-	-	-	0.4
Non-Revenue Fleet Expansion	1.0	-	-	-	-	-	-	-	-	1.1	-
Evelyn T Butts Transfer Center Replacement	-	-	6.1	-	-	-	-	-	-	-	-
Bus Stop Amenity Program	5.3	-	5.3	5.5	7.0	3.6	-	-	-	-	-
Peninsula Transit Signal Priority Improvements^	-	0.6	0.8	0.6	-	-	-	-	-	-	-
Total Planned Capital Expenditures	13.9	9.8	28.0	16.0	17.0	4.0	0.5	-	4.3	1.5	0.4

~HRT has made a RAISE (Rebuilding American Infrastructure with Sustainability and Equity) grant application for the electrification elements of the new Southside operating and maintenance facility. These elements are not reflected in the cost estimate outlined here.

^Project contingent on receiving a federal earmark.

Item	Funding (YOES\$ Millions)										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Federal 5307	-	3.6	5.7	4.3	5.1	1.9	0.1	-	1.2	0.3	0.1
Federal 5339	-	1.2	1.1	0.9	0.9	-	-	-	-	0.1	-
Federal Discretionary*	-	-	3.0	-	-	-	-	-	-	-	-
State	2.3	1.0	10.9	5.0	5.0	0.3	0.3	-	2.9	1.0	0.3
HRRTF	11.6	4.0	7.3	5.8	6.0	1.8	0.0	-	0.2	0.1	0.0
Total Planned Capital Funding	13.9	9.8	28.0	16.0	17.0	4.0	0.5	-	4.3	1.5	0.4

*Potential future award

Note: Due to rounding, summing the individual elements may result in a slightly different figure than the total displayed. The rounded totals are the accurate source for totals.

6.8.2. Operations and Maintenance

Table 6-17 reflects preliminary costs and revenues for RTS Program Operations and Maintenance (O&M) over the current 10-year planning horizon. This includes costs based on hours of service, as the RTS operations are phased in over time for Groups A, B, and C, as well as additional costs each year for specific O&M categories as discussed in **Section 6.7.3**.

A summary for the FY 2023 HRRTF Program items and costs is shown in **Table 6-18**. This depicts Program items for which HRT plans to utilize Fund moneys, in the estimated amounts shown, to support Operations and Maintenance expenses over this period up to June 30, 2023. The \$9.5 million of HRRTF Program funds for RTS bus operations is net of the following revenues: fares, the IOEP grant for Route 972, and the TRIP grant supporting the extension of Route 21 for circulator service on Naval Station Norfolk,¹¹ which together total \$1.9 million in revenue. The total cost of RTS bus operations in FY 2023 is \$11.3 million (**Table 6-17**). HRT will apply to HRTAC for additional funding to cover any negative end-of-year variance(s), should they occur, due to expenses or farebox revenues being different. In the case of any positive end-of-year variance, HRT will apply to HRTAC for remaining funds to be credited toward the following year's RTS bus operations expenses.

¹¹ The circulator-type service of the Regional Backbone Route 21 would operate on weekdays between 5:00 a.m. and 6:00 p.m. with 15-minute headways during the a.m. and PM peak periods and 30-minute headways during the off-peak.

Table 6-17: Planned RTS Program Operations Costs and Revenues

Item	Expenses (YOE\$ Millions)										
	A			B			C				
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
MAX Route Operations Costs	4.1	4.4	5.3	6.4	7.2	7.4	7.6	7.8	8.0	8.3	8.5
Regional Backbone and PCS Operations Costs	2.2	6.9	16.4	24.2	26.7	27.4	28.1	28.8	29.6	30.4	31.1
Total RTS Bus Operations Costs	6.3	11.3	21.7	30.7	33.9	34.8	35.7	36.6	37.6	38.6	39.6
RTS Program Costs*	5.2	8.8	7.6	6.0	4.1	4.2	4.3	4.4	5.3	4.7	4.8
Total RTS Operations Costs	11.5	20.1	29.2	36.7	38.0	39.0	40.0	41.1	42.9	43.3	44.5

Item	Funding (YOE\$ Millions)										
	A			B			C				
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Fare Revenues	0.6	0.8	1.5	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.9
IOEP State Grant (Route 972)	-	0.0	0.1	0.1	-	-	-	-	-	-	-
TRIP GRANT - Navy Circulator Service	-	0.9	0.9	0.4	-	-	-	-	-	-	-
HRRTF	10.9	18.3	26.8	34.4	36.1	37.1	38.1	39.2	41.0	41.4	42.6
Total Funding Support RTS Operations	11.5	20.1	29.2	36.7	38.0	39.0	40.0	41.1	42.9	43.3	44.5

Note: Due to rounding, summing the individual elements may result in a slightly different figure than the total displayed. The rounded totals are the accurate source for totals. For FY 2022 and FY 2023, MAX, Regional Backbone, and PCS operating costs reflect the most recent version of cost allocation information available at the time of the TSP update. For the purpose of Chapter 5, these expenses are estimated by the CIP model which includes more conservative assumptions.

*The breakdown of RTS Program Costs can be found in **Table 6-19**

Table 6-18: FY 2023 RTS Program Operations and Maintenance Expenses

Item	Description	Expenses (YOES\$ Millions)
RTS Bus Operations	103,901 total service hours on: <ul style="list-style-type: none"> ■ Limited/Express routes: MAX 121, MAX 919, MAX 922, MAX 960, MAX 961, MAX 966, MAX 967, MAX 970, MAX 972, MAX 980, PCS 403, PCS 405, PCS 414, PCS 415, PCS 430 ■ Regional Backbone routes: Route 101, Route 112, Route 114, Route 21 extension for Naval Station Norfolk circulator service ■ 15-min frequency incremental costs (Routes 1, 3, 15, 20, 47) (See route profiles in Section 6.6 for more service information)	9.5
Planning	RTS Program annual update (Transit Strategic Plan); 10-year RTS Capital Program update.	0.2
Human Resources	Direct RTS Program staffing (see positions listed in Table 6-15).	5.4
Marketing and Communications	Targeted Recruitment advertising; Bus Wraps production; Promotional media; System map development/printing; Marketing contract services.	0.4
Technology	Real-time displays O&M; Transit Wi-Fi; Networking; Datacenter hardware and software; Microsoft server/client/ cloud services expansion and licensing; website re-branding (one-time); staff equipment costs; Mobile and communication services / WAN / Internet / telephony; Endpoint protection expansion (one-time).	0.8
Safety and Security	Safety/risk assessments; insurance; enhanced security personnel and administrative support; security infrastructure configuration enhancements.	0.2
Facilities	Contracted cleaning; Shelter maintenance and material; Professional fees for shelter replacements / transfer center replacements Evelyn T. Butts; Robert Hall.	1.5
HRTAC Administrative Fee	Fees that HRTAC will occur in monitoring the HR RTP program.	0.2
TOTAL		18.3

Note: Due to rounding, summing the individual elements may result in a slightly different figure than the total displayed. The rounded totals are the accurate source for totals.

A further breakdown of the additional RTS Operations and Maintenance Program costs, shown in **Table 6-17**, is provided in **Table 6-19**. This includes estimated HRTAC administrative expenses associated with managing the Hampton Roads Regional Transit Fund (HRRTF).

Table 6-20 provides an overall view of planned uses of the Hampton Roads Regional Transit Fund (HRRTF) to implement the RTS Program documented in this chapter. **Table 6-20** reflects a plan, not a budget. HRRTF revenue forecasts are based on Virginia Department of Taxation estimates. As with **Chapter 5** in this TSP update, **Table 6-20** does not include any funding assumptions associated with additional discretionary or relief funding HRT will receive, for example, as a result of the American Rescue Plan Act of 2021. In developing this information, HRT has utilized conservative assumptions related to RTS staffing, system ridership, and farebox revenues. HRT will proactively manage and update the Hampton Roads Regional Transit Program and this Transit Strategic Plan (TSP) in a manner that ensures ongoing fiscal responsibility and sustainable regional transit operations.

Table 6-19: Planned RTS Operations & Maintenance Program Costs

Item	Expenses (YOE\$ Millions)										
	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Planning	0.9	0.2	0.2	0.9	0.2	0.2	0.2	0.2	0.9	0.2	0.2
Human Resources	1.8	5.4	3.6	1.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Marketing and Communications	0.7	0.4	0.4	0.2	-	-	-	-	0.2	-	-
Technology	0.3	0.8	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.4
Facilities	1.1	1.5	1.6	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.4
Safety & Security	0.2	0.2	0.4	0.5	0.3	0.3	0.4	0.4	0.4	0.4	0.4
HRTAC Administrative Fee	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
RTS Program Costs	5.2	8.8	7.6	6.0	4.1	4.2	4.3	4.4	5.3	4.7	4.8

Note: Due to rounding, summing the individual elements may result in a slightly different figure than the total displayed. The rounded totals are the accurate source for totals

Table 6-20: Planned HRRTF Revenues and Expenditures

HRRTF Balance (YOE\$ Millions)	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032
Beginning Balance	5.4	15.1	25.5	24.5	17.9	9.7	4.6	0.3	(4.9)	(12.1)	(19.5)
HRRTF Projected Revenues	32.3	32.7	33.2	33.6	33.8	33.9	33.9	33.9	34.0	34.1	34.2
HRRTF Planned Capital Spending	11.6	4.0	7.3	5.8	6.0	1.8	0.0	-	0.2	0.1	0.0
HRRTF Planned O&M Spending	10.9	18.3	26.8	34.4	36.1	37.1	38.1	39.2	41.0	41.4	42.6
Cumulative Balance	15.1	25.5	24.5	17.9	9.7	4.6	0.3	(4.9)	(12.1)	(19.5)	(27.8)

Notes: (1) Due to rounding, summing the individual elements may result in a slightly different figure than the total displayed. The rounded totals are the accurate source for totals. (2) Funding projections do not reflect additional discretionary and relief funds. (3) HRRTF Projected Revenues include investment revenues. (4) O&M cost projections reflect full staffing levels. (5) As a practical matter, in no year will HRT management bring forward any budgets that are not balanced.

6.9. Measuring Performance

When adjusting a route or introducing new service it is important to allow for a period of growth of at least 18 to 24 months to build awareness and normalize a market before measuring performance and recommending changes. Given the current COVID-19 pandemic and its impacts on ridership, route improvements supported by the Fund will be allotted at least 18 months of post-pandemic service (defined as when ridership is no longer being impacted by the pandemic, there are no service reductions due to operator shortfalls, and starting from when a phasing group is fully implemented, see **Table 6-14**) before they are evaluated as described in this section. After this period, the performance of the Regional Backbone and Limited/Express services supported by the Fund will be monitored annually and adjusted as necessary to ensure the on-going success of the Program.

The performance of these routes will be evaluated on a rolling basis in accordance with DRPT guidance as outlined in the Transit Strategic Plan Guidelines.¹² These guidelines indicate that the performance of a bus service should be measured against several metrics, such as:

- **Ridership:** passengers per mile, passengers per hour, total passenger miles, etc.
- **Cost efficiency:** cost per mile, cost per hour, cost per trip, farebox recovery, etc.
- **Safety:** accidents, injuries, etc.
- **System accessibility:** residential access to the system, jobs accessible to the system, etc.

The above measures will be important to assess on an annual basis in order to best understand the usage and performance of each Regional Backbone and Limited/Express service and to identify where adjustments could be made to improve operations (e.g., route alignment, scheduling, blocking, run-cutting, etc.). Additionally, the TSP Guidelines call for an efficiency evaluation assessing reliability and on-time performance, two qualities that are essential for understanding and maintaining 15-minute headways as reflected in the Program. These measures should also be assessed annually.

Additional measures may be included that address other agency goals and objectives. HRT will measure the performance of Program services based on factors cited by the relevant legislation which indicates that investments should be positively linked to factors of “*economic development potential, employment opportunities, mobility, environmental sustainability, and quality of life.*” The metrics outlined in **Section 6.5.2: Program Factors, Objectives, and Metrics** will be evaluated and improved upon annually in an effort to understand the impact of the Program on the community.

Routes that perform as well as or better than expected should be considered for additional resource investment, while routes that perform below expectations should be put under performance review with remedial service change actions. Any remedial actions toward Regional Backbone routes will also follow existing HRT Service Standards policy.

¹² See http://www.drpt.virginia.gov/media/2526/transit-strategic-plan-guidelines-draft_clean_082918.pdf.