

CHAPTER 6

# Hampton Roads Regional Transit Program



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## 6. Hampton Roads Regional Transit Program

### 6.1. Background

The General Assembly in 2020 passed legislation requiring establishment of the Hampton Roads Regional Transit Program (the Program). 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 is 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 an approved Transit Strategic Plan of the Transportation District Commission of Hampton Roads (TDCHR).<sup>1</sup> 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.<sup>2</sup>

### 6.2. Purpose and Requirements

Pursuant to law, the Hampton Roads Regional Transit 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.”*

Senate Bill 1038 and House Bill 1726 also established the Hampton Roads Regional Transit Fund (the Fund). The Fund is to be 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.”*<sup>3</sup>

Additionally, per legislative guidance:

- Investments that are part of the Hampton Roads Regional Transit Program should be positively linked to factors related to *“economic development potential, employment opportunities, mobility, environmental sustainability, and quality of life.”*
- The eligible geography in which Hampton Roads Regional Transit Fund moneys are to be used is a 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).<sup>4</sup>
- The Fund cannot be used *“to support the expansion of light rail”* beyond the boundaries of the City of Norfolk.
- Allocations from the Fund should give priority, when possible, to the most cost-effective and sustainable investments *“to reduce or eliminate reliance upon diesel fuels.”*

<sup>1</sup> 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>.

<sup>2</sup> Ibid.

<sup>3</sup> Code of Virginia § 33.2-2600.1 C.

<sup>4</sup> 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 the intended use of the Hampton Roads Regional Transit Fund.

Operating and capital costs (for expansion and ongoing State of Good Repair) for two classifications of bus routes are Program eligible and may be funded using moneys from the Hampton Roads Regional Transit Fund. These are Regional Backbone routes and Limited/Express routes.

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 SB1038 and HB1726. 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 to the service planning principles and framework detailed in **Sections 1.2.2.** and **Section 1.2.3** of this TSP. This includes top regional priorities of providing more reliable inter-jurisdictional bus service, with priority on 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 for different routes based on different justifications. These justifications are identified for each route and also described in **Section 6.6: Route Profiles**. They include:

- 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**.
- Icons provide quick reference as to the types of justifications included for each route:

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

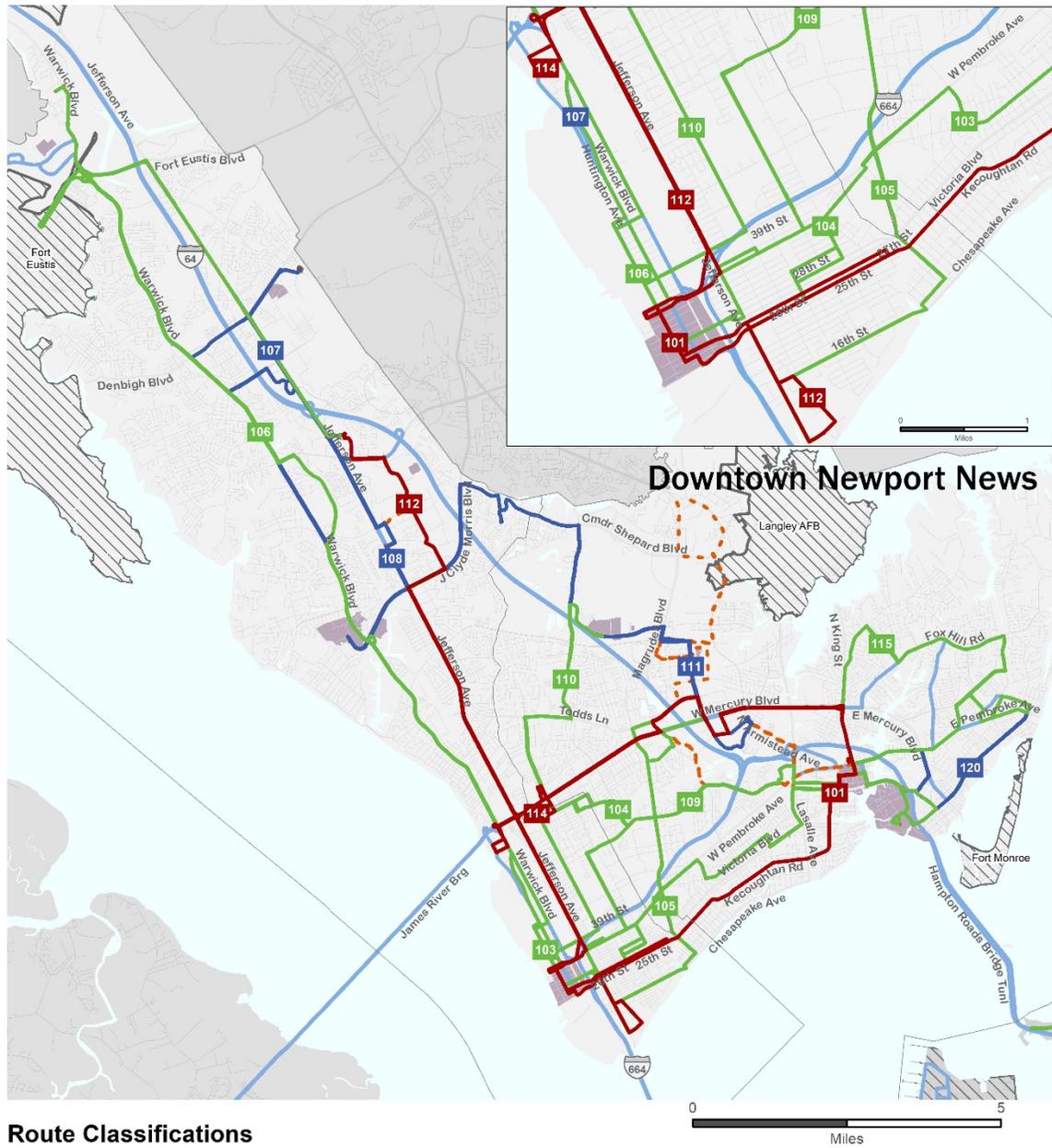
This section documents the improvements that comprise the Hampton Roads Regional Transit Program within the six cities of the Transportation District of Hampton Roads (Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, and Virginia Beach).

**Figure 6-1** and **Figure 6-2** show route classifications and delineate two route types 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 is shown on these maps to depict the supporting services that feed into the “*core and connected regional network*”.<sup>5</sup> Program routes are described in more detail in **Section 6.4.1** and **Section 6.4.2**.

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<sup>5</sup> Code of Virginia § 33.2-2600.1 C.

Figure 6-1: Regional Transit Program Route Classifications - Peninsula



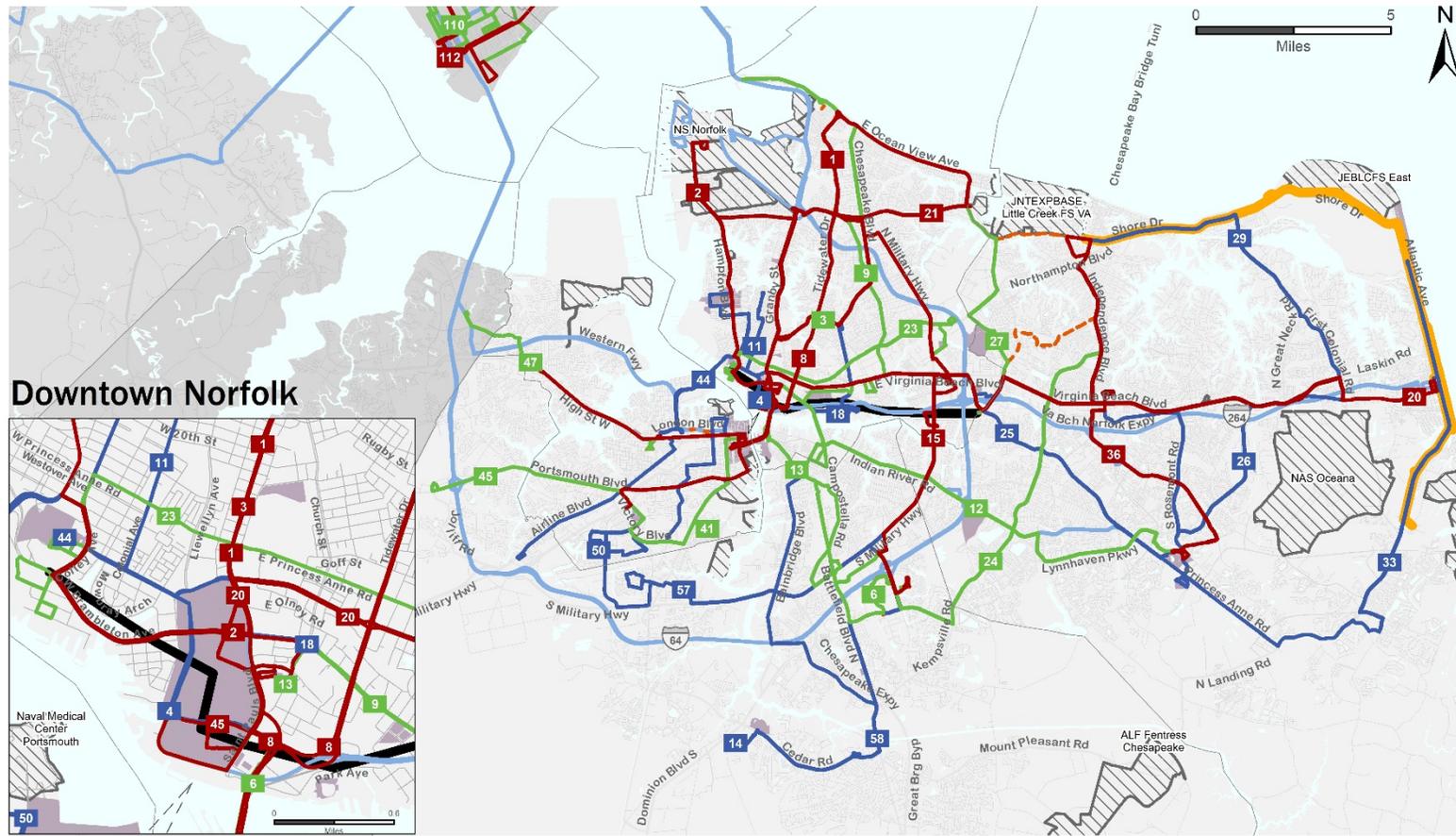
**Route Classifications**

- Regional Backbone
- Limited/Express
- Local Priority
- Coverage
- Eliminated Service
-  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
- Coverage
- Limited/Express
- Local Priority
- - - Eliminated Service

**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 is the Regional Backbone (shown in **Figure 6-3** and **Figure 6-4**), which includes thirteen (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, 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*

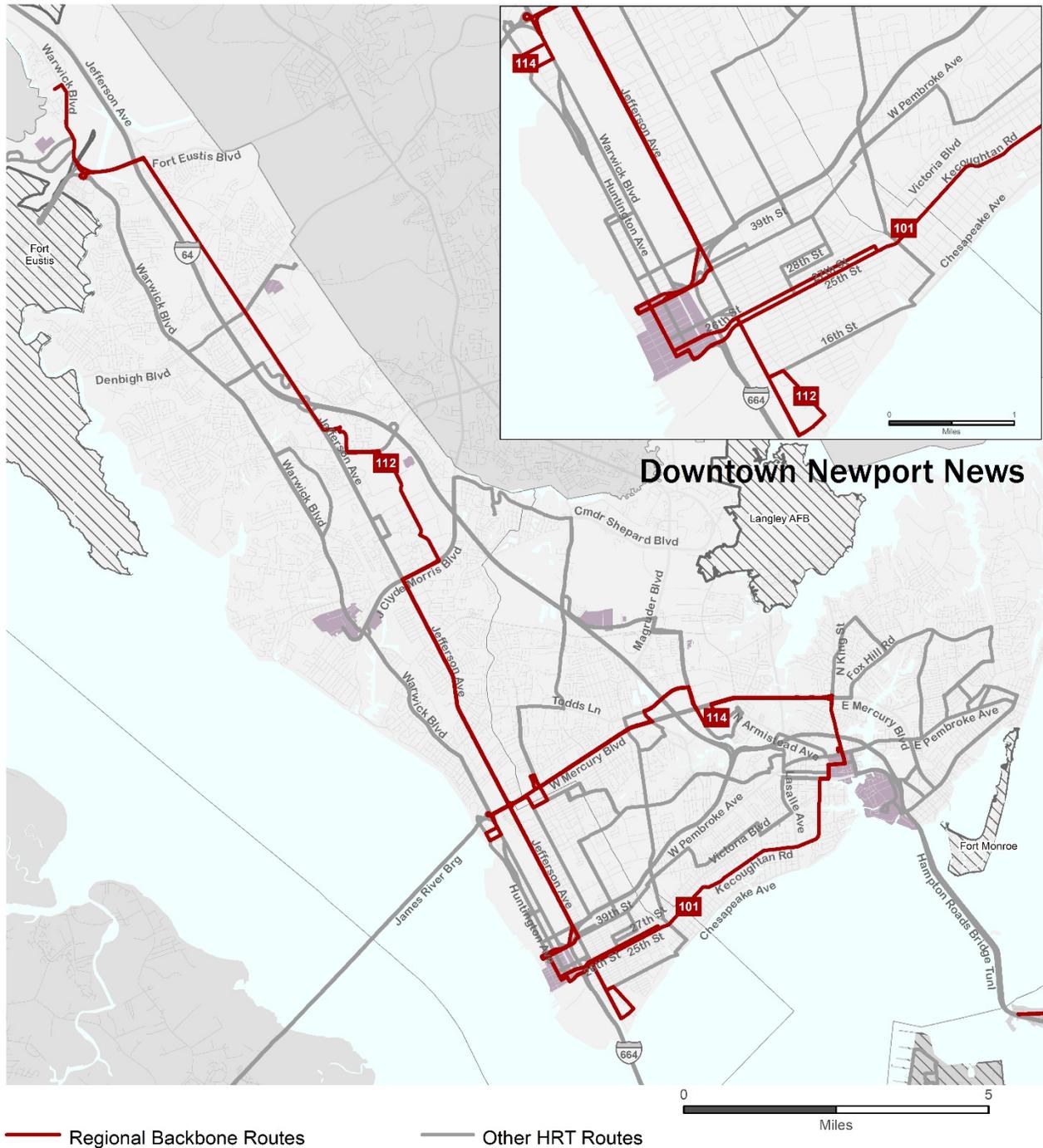
| Description   | Criteria                                   |   |                  |
|---|--|---|------------------|
|   | Interjurisdictional                        | Population / Job Density  | Route Directness |
| The backbone of bus transit throughout the region, traveling on the highest-demand 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, which have standardized levels of service across jurisdictional boundaries and operate 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.<br>3:00 p.m. – 6:00 p.m. | 15 min | 5:00 a.m. – 1:00 a.m.  |
|                 | Midday   | 9:00 a.m. – 3:00 p.m.                          | 30 min |                        |
|                 | Evening  | 6:00 p.m. – 9:00 p.m.                          | 30 min |                        |
| Weekend         | Base     | 8:00 a.m. – 6:00 p.m.                          | 30 min | 6:00 a.m. – 12:00 a.m. |
|                 | Non-base | 6:00 a.m. – 8:00 a.m.<br>6:00 p.m.– 9:00 p.m.  | 30 min |                        |

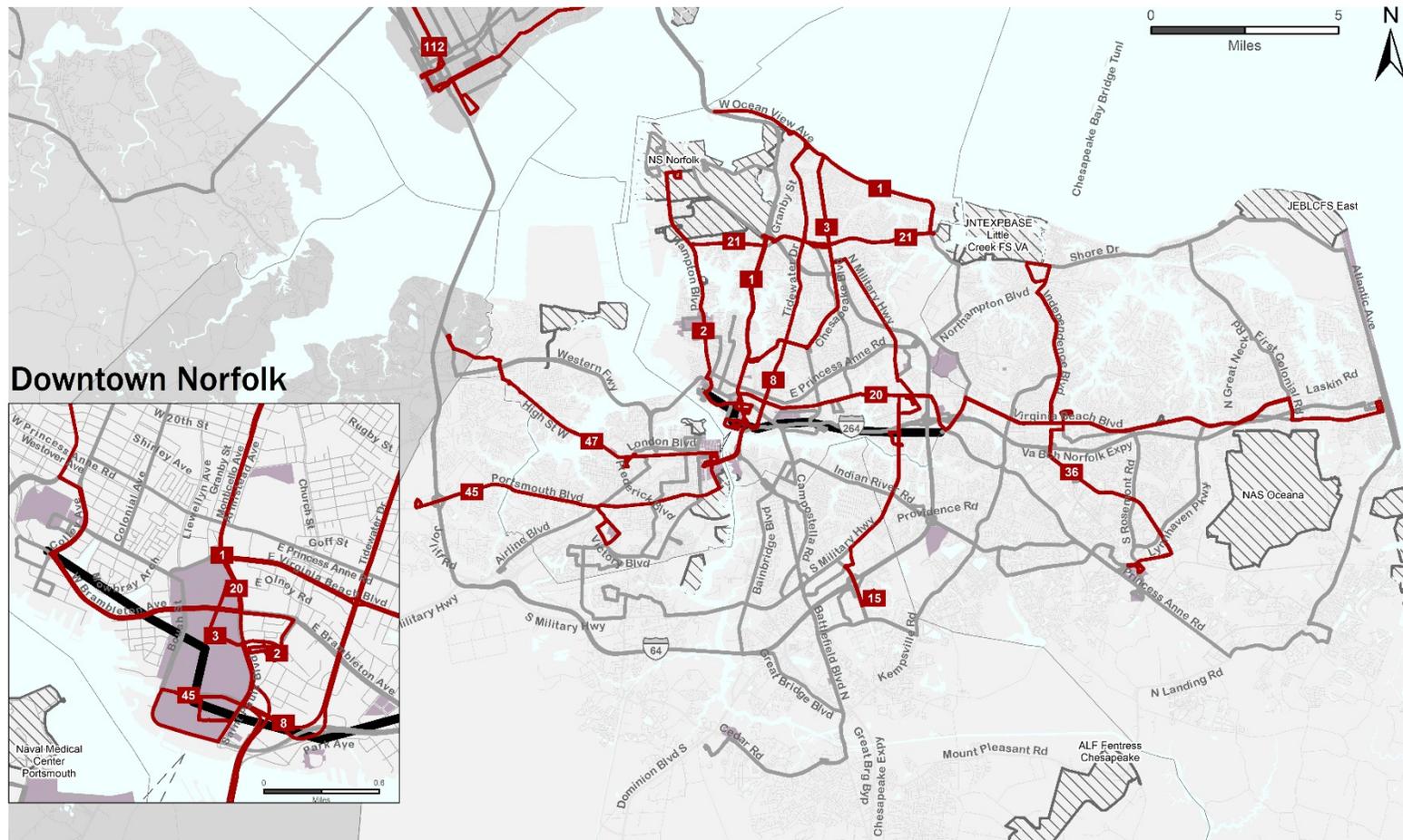
Figure 6-3: Regional Transit Program Regional Backbone Routes - Peninsula



**PENINSULA:** Hampton Roads Transit Regional Transit Program  
Regional Backbone Routes



Figure 6-4: Regional Transit Program Regional Backbone Routes - Southside



- Regional Backbone Routes
- Other HRT Routes
- - - Ferry
- Light Rail

**SOUTHSIDE:** Hampton Roads Transit Regional Transit Program Regional Backbone Routes

### 6.4.2. Limited/Express

Regional Metro Area Express (MAX) routes and Peninsula Commuter Service (PCS) routes also fit within parameters of the Program in order to receive support for additional service (shown in **Figure 6-5** and **Figure 6-6**). There are 13 PCS and MAX routes which all fall within the Limited/Express route classification that provide interjurisdictional connections, offering commuters 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.

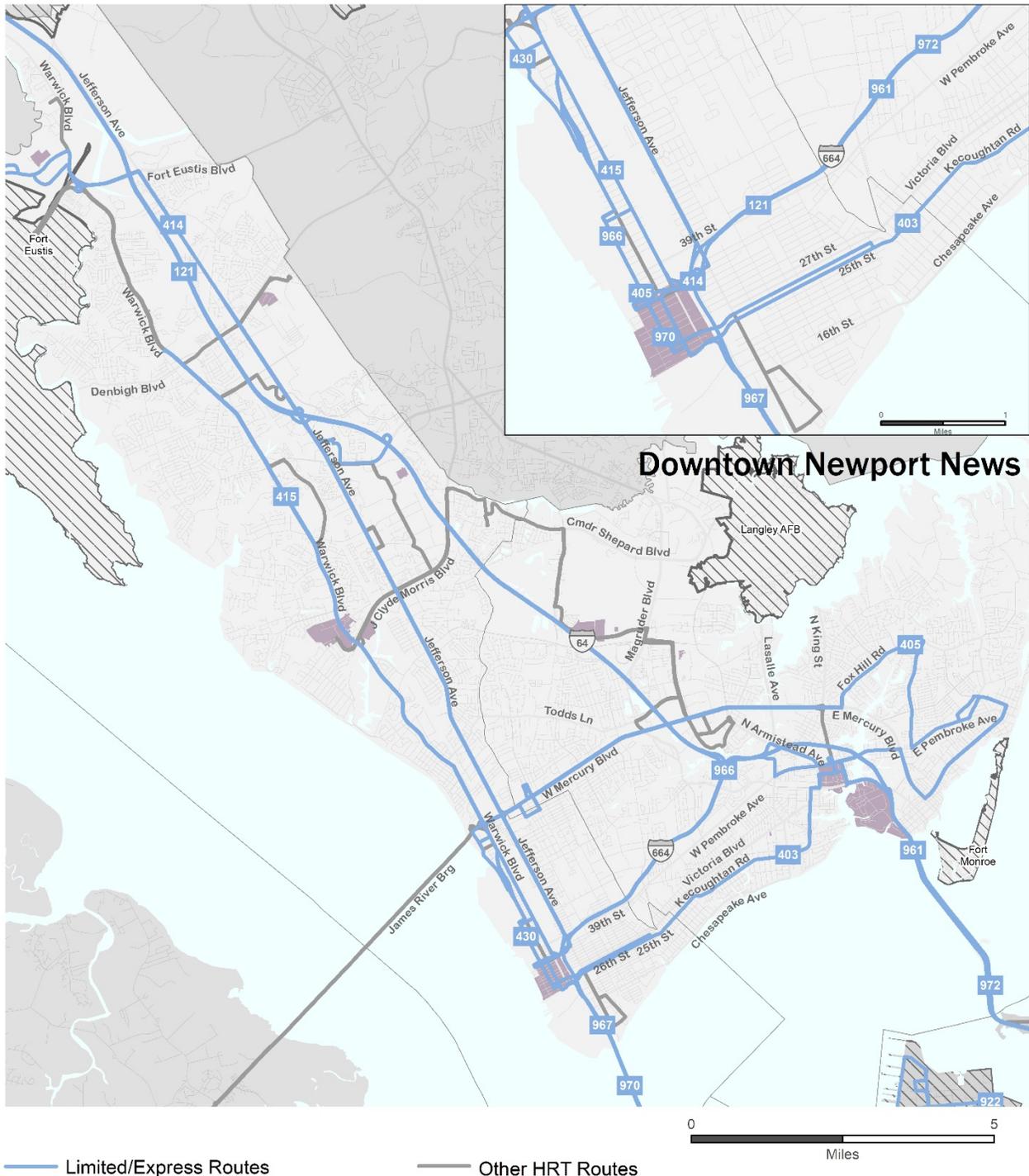
Route 970, which will provide commuter connections between Newport News and Portsmouth, is the only service not currently in operation.<sup>6</sup> It is proposed that Route 970 be implemented when all of the other PCS and MAX services are updated in FY 2022.

*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 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              |

<sup>6</sup> Route 970 is one option for future expansion of MAX service. In the next annual update, that route plus others will be explored, including service connecting Chesapeake to Norfolk Naval Shipyard (Portsmouth).

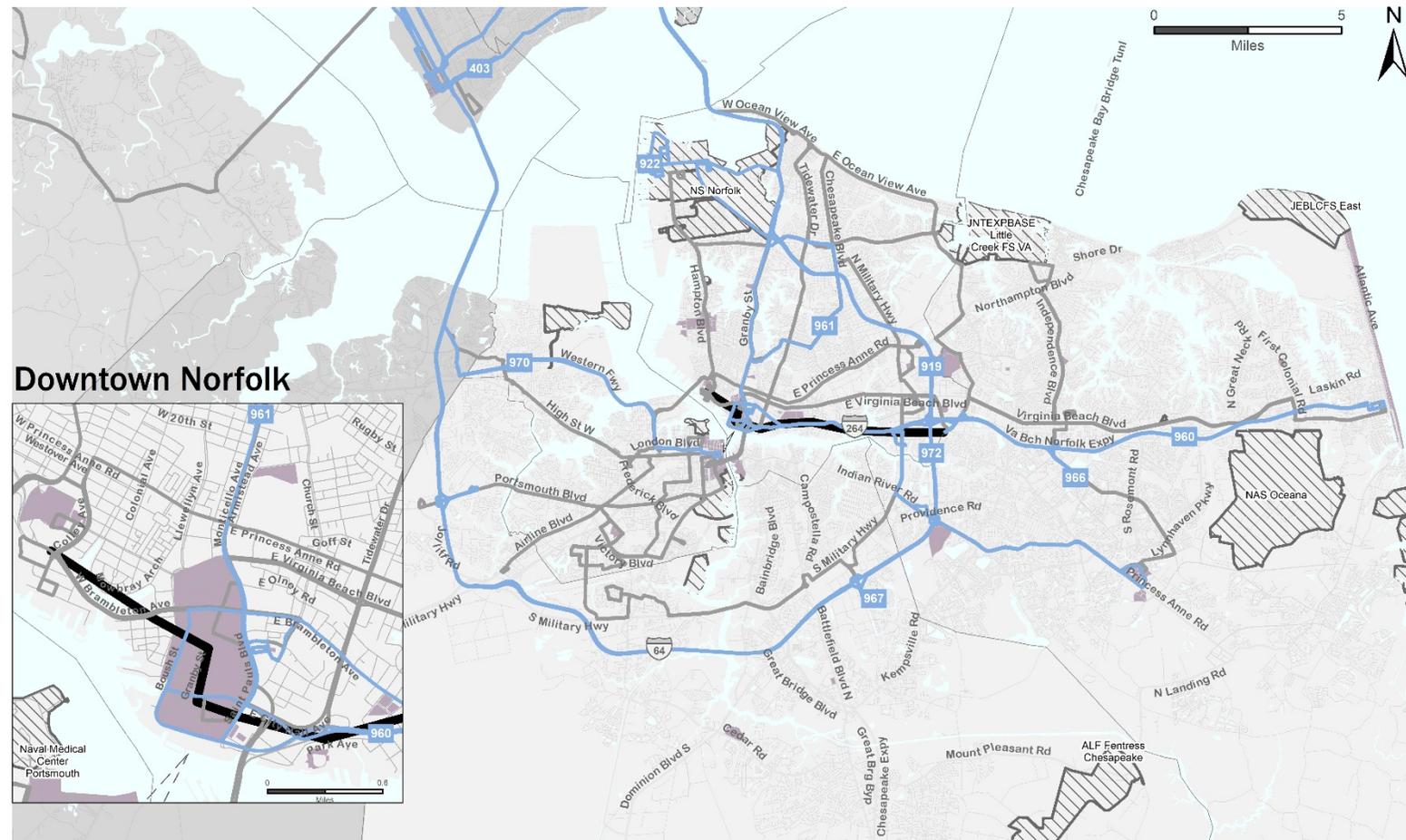
Figure 6-5: Regional Transit Program Limited/Express Routes - Peninsula



**PENINSULA:** Hampton Roads Transit Regional Transit Program Limited/Express Routes



Figure 6-6: Regional Transit Program Limited/Express Routes - Southside



— Limited/Express Routes  
 — Other HRT Routes

**Other Services**  
 - - - Ferry  
 — Light Rail

**SOUTHSIDE: Hampton Roads Transit 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 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; 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 Board of Commissioners (December 2019) for improving a regional transit system, including: following 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. More details about these routes can be found in **Section 6.6: Route Profiles**. The table displays the level of service in terms of service hours. It first shows the current service hours for these routes and then shows the estimated service hours under a full implementation according to the service design standards, wherein each route will meet or exceed those standards.

**Table 6-5** illustrates the jurisdictional connections and major destinations for the MAX and PCS routes, with additional details about these routes also found in **Section 6.6: Route Profiles**. This table also shows the level of service in terms of service hours. The current service hours for these routes are shown in comparison with the estimated service hours under a full implementation according to the service design standards, wherein each route will meet or exceed those standards.

*Table 6-4: Regional Backbone Major Destinations and Service Hours*

| Route            | Planned Jurisdictional Connections and Major Destinations  | FY 2020 Service Hours | Anticipated FY 2022 Service Hours | Service Hours for Program Implementation |
|------------------|--|-----------------------|-----------------------------------|--|
| <b>Route 1</b>   | Norfolk and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk Transit Center</li> <li>■ Evelyn T. Butts Avenue</li> <li>■ Joint Expeditionary Base Little Creek</li> </ul>           | 36,398                | 36,221                            | 58,533                                   |
| <b>Route 2</b>   | Norfolk<br><ul style="list-style-type: none"> <li>■ Navy Exchange Mall</li> <li>■ Downtown Norfolk Transit Center</li> </ul>   | 19,801                | 19,724                            | 26,195                                   |
| <b>Route 3</b>   | Norfolk<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk</li> <li>■ Evelyn T. Butts Avenue</li> <li>■ Ocean View Avenue</li> </ul>   | 28,315                | 28,004                            | 31,422                                   |
| <b>Route 8</b>   | Norfolk<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk</li> <li>■ Evelyn T. Butts Avenue</li> </ul>  | 16,980                | 16,785                            | 25,746                                   |
| <b>Route 15</b>  | Chesapeake, Norfolk, and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Greenbrier Mall</li> <li>■ Evelyn T. Butts Avenue</li> <li>■ Military Highway Light Rail Station</li> </ul>                | 32,467                | 32,461                            | 40,150                                   |
| <b>Route 20</b>  | Norfolk and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk</li> <li>■ Newtown Road Light Rail Station</li> <li>■ Virginia Beach Oceanfront</li> </ul>                             | 56,053                | 55,787                            | 89,876                                   |
| <b>Route 21</b>  | Norfolk and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Navy Exchange Mall</li> <li>■ Joint Expeditionary Base Little Creek</li> </ul>  | 26,910                | 26,816                            | 33,866                                   |
| <b>Route 36</b>  | Virginia Beach<br><ul style="list-style-type: none"> <li>■ Pleasure House Road</li> <li>■ Pembroke East</li> <li>■ TCC Virginia Beach</li> </ul>   | 8,664                 | 8,506                             | 33,388                                   |
| <b>Route 45</b>  | Chesapeake, Norfolk, and Portsmouth<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk Transit Center</li> <li>■ Midtown Portsmouth</li> <li>■ Victory Crossing</li> <li>■ TCC Portsmouth</li> </ul> | 27,472                | 27,319                            | 43,091                                   |
| <b>Route 47</b>  | Portsmouth and Suffolk<br><ul style="list-style-type: none"> <li>■ Downtown Portsmouth</li> <li>■ Churchland</li> </ul>  | 16,050                | 15,965                            | 23,577                                   |
| <b>Route 101</b> | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Downtown Newport News</li> <li>■ Downtown Hampton</li> </ul>  | 11,313                | 11,393                            | 16,433                                   |
| <b>Route 112</b> | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Ivy Avenue &amp; 6<sup>th</sup> Street</li> <li>■ Downtown Newport News</li> <li>■ Patrick Henry Mall</li> <li>■ Lee Hall</li> </ul>      | 22,286                | 26,933                            | 64,025                                   |
| <b>Route 114</b> | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Newmarket</li> <li>■ Downtown Hampton</li> </ul>  | 19,614                | 19,511                            | 41,676                                   |

Table 6-5: Limited/Express Major Destinations and Service Hours

| Route                                 | Planned Jurisdictional Connections and Major Destinations  | FY 2020 Service Hours | Anticipated FY 2022 Service Hours | Service Hours for Program Implementation |
|---------------------------------------|--|-----------------------|-----------------------------------|--|
| <b>Route 121</b>                      | Newport News<br><ul style="list-style-type: none"> <li>■ Newport News Transit Center</li> <li>■ Williamsburg Transportation Center</li> </ul>  | 973                   | 969                               | 969                                      |
| <b>Route 403</b>                      | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Buckroe Shopping Center</li> <li>■ Newport News Shipbuilding</li> </ul>   | 211                   | 211                               | 461                                      |
| <b>Route 405</b>                      | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Newport News Transit Center</li> <li>■ Buckroe Shopping Center</li> </ul>   | 470                   | 480                               | 914                                      |
| <b>Route 414</b>                      | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Newport News Transit Center</li> <li>■ Jefferson/Oakland</li> </ul>   | 1,704                 | 1,192                             | 1,192                                    |
| <b>Route 415</b>                      | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Newport News Transit Center</li> <li>■ Denbigh</li> </ul>   | 178                   | 188                               | 380                                      |
| <b>Route 430</b>                      | Hampton and Newport News<br><ul style="list-style-type: none"> <li>■ Denbigh Fringe</li> <li>■ Newport News Transit Center</li> </ul>  | 493                   | 487                               | 874                                      |
| <b>Route 919</b>                      | Norfolk and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Silverleaf Part &amp; Ride</li> <li>■ Naval Station Norfolk Gate 4</li> </ul>   | 1,532                 | 1,526                             | 1,445                                    |
| <b>Route 922</b>                      | Chesapeake, Norfolk, and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Greenbrier Mall Park &amp; Ride</li> <li>■ Naval Station Norfolk Gate 4</li> </ul>                                       | 1,773                 | 1,766                             | 1,375                                    |
| <b>Route 960</b>                      | Norfolk and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk</li> <li>■ Virginia Beach Oceanfront</li> </ul>  | 10,408                | 10,411                            | 2,322                                    |
| <b>Route 961</b>                      | Hampton, Newport News and Norfolk<br><ul style="list-style-type: none"> <li>■ Downtown Norfolk</li> <li>■ Downtown Hampton</li> <li>■ Downtown Newport News</li> </ul>                                       | 20,483                | 20,446                            | 20,446                                   |
| <b>Route 966</b>                      | Newport News and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Silverleaf Park and Ride</li> <li>■ Newport News Transit Center</li> </ul>   | 1,067                 | 1,045                             | 1,485                                    |
| <b>Route 967</b>                      | Chesapeake, Newport News, Norfolk, and Virginia Beach<br><ul style="list-style-type: none"> <li>■ Downtown Newport News</li> <li>■ Greenbrier Mall</li> <li>■ Military Highway Light Rail Station</li> </ul> | 3,607                 | 3,719                             | 3,719                                    |
| <b>Route 970 (proposed new route)</b> | Newport News and Portsmouth<br><ul style="list-style-type: none"> <li>■ Downtown Newport News</li> <li>■ Downtown Portsmouth</li> </ul>  | -                     | -                                 | 2,902                                    |
| <b>Route 972</b>                      | Virginia Beach and Newport News<br><ul style="list-style-type: none"> <li>■ Downtown Newport News</li> <li>■ TCC Virginia Beach</li> </ul>   | 594                   | 589                               | 1,060                                    |

### 6.5.2. Program Factors, Objectives, and Metrics

This section further documents positive linkages of Program investments to factors proscribed in SB1038 and HB1726: 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   |
|---------------------------------------|---|---|
| <b>Economic Development Potential</b> | Support businesses and support future economic development at local level.  | <ul style="list-style-type: none"> <li>Integration with and support for local comprehensive plans, transportation plans, and local or regional economic development strategies.</li> <li>Number of economically distressed areas served.</li> </ul>                   |
| <b>Employment Opportunities</b>       | Provide access to and from jobs and workforce development sites.  | <ul style="list-style-type: none"> <li>Number of jobs with access to transit.</li> </ul>  |
| <b>Mobility</b>                       | Provide consistent and reliable transit options across the region.  | <ul style="list-style-type: none"> <li>Number of residents with access to transit.</li> <li>Number of jobs and residents with access to high-frequency service with 15-minute headways in the peak period.</li> <li>Access to multi-modal transit options.</li> </ul> |
| <b>Environmental Sustainability</b>   | Contribute to improved air quality and reduction of energy use.   | <ul style="list-style-type: none"> <li>Equivalent VMT reduction (based on avg. trip length) to Fleet Capacity (multiplied by existing system efficiency of passengers per revenue hour)</li> </ul>  |
| <b>Quality of Life</b>                | 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"> <li>Transit travel time.</li> <li>Average wait for transit.</li> <li>Access to transit for disadvantaged populations (low-income, minority, or limited English proficiency).</li> </ul>  |

### 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 factor. 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 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).<sup>7</sup> 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 30-minute segments were analyzed with a one-quarter mile buffer, as customers are willing to walk slightly further for higher frequency service. Regional Backbone routes which provide access to the highest number of jobs are, in order, Route 20, Route 112, and Route 2.

<sup>7</sup> As with other metrics in Table 6-6, this methodology is consistent with Virginia's MERIT (Making Efficient and Responsible Investments in Transit) program, the statewide transit capital program, in evaluating capital projects for funding; HRT is adapting MERIT metrics where applicable for use with Hampton Roads Regional Transit Program.

Table 6-7: Employment Access to Regional Backbone Routes

| Route     | Employment Within 1/4 Mile | Employment Within 1/2 Mile | Total Employment Access to Regional Backbone Routes |
|-----------|----------------------------|----------------------------|---|
| Route 1   | N/A                        | 32,519                     | <b>32,519</b>                                       |
| Route 2   | N/A                        | 47,451                     | <b>47,451</b>                                       |
| Route 3   | 1,163                      | 26,332                     | <b>27,495</b>                                       |
| Route 8   | N/A                        | 27,303                     | <b>27,303</b>                                       |
| Route 15  | N/A                        | 42,687                     | <b>42,687</b>                                       |
| Route 20  | N/A                        | 82,471                     | <b>82,471</b>                                       |
| Route 21  | N/A                        | 10,867                     | <b>10,867</b>                                       |
| Route 36  | N/A                        | 26,525                     | <b>26,525</b>                                       |
| Route 45  | 2,049                      | 33,779                     | <b>35,828</b>                                       |
| Route 47  | 931                        | 15,302                     | <b>16,233</b>                                       |
| Route 101 | N/A                        | 11,003                     | <b>11,003</b>                                       |
| Route 112 | 5,457                      | 45,319                     | <b>50,776</b>                                       |
| Route 114 | N/A                        | 21,390                     | <b>21,390</b>                                       |

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 | 103,474                              |                                     | 15,380                                  | <b>118,854</b>                                    |
| Route 403 | 97,003                               |                                     | 15,380                                  | <b>112,383</b>                                    |
| Route 405 | 91,640                               |                                     | 15,380                                  | <b>107,020</b>                                    |
| Route 414 | 129,859                              |                                     | 15,380                                  | <b>145,239</b>                                    |
| Route 415 | 116,330                              |                                     | 15,380                                  | <b>131,710</b>                                    |
| Route 430 | 120,243                              |                                     | 15,380                                  | <b>135,623</b>                                    |
| Route 919 | 37,486                               | 60,000                              |   | <b>97,486</b>                                     |
| Route 922 | 68,785                               | 60,000                              |   | <b>128,785</b>                                    |
| Route 960 | 124,612                              |                                     |   | <b>124,612</b>                                    |
| Route 961 | 175,740                              |                                     | 15,380                                  | <b>191,120</b>                                    |
| Route 966 | 99,961                               |                                     | 15,380                                  | <b>115,341</b>                                    |
| Route 967 | 162,458                              |                                     | 15,380                                  | <b>177,838</b>                                    |
| Route 970 | 137,612                              |                                     | 15,380                                  | <b>152,992</b>                                    |
| Route 972 | 104,011                              |                                     | 15,380                                  | <b>119,391</b>                                    |

### *Residential Access to Transit*

**Mobility** is another primary factor of consideration. The objective here is to provide consistent and reliable transit options across the region. Metrics under this factor include 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) 2018 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 30-minute segments were analyzed with a one-quarter mile buffer, as customers are 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 1, and Route 3.

*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 |
|------------------|----------------------------|----------------------------|---|
| <b>Route 1</b>   |                            | 80,457                     | <b>80,457</b>                                       |
| <b>Route 2</b>   |                            | 52,616                     | <b>52,616</b>                                       |
| <b>Route 3</b>   | 14,586                     | 51,638                     | <b>66,224</b>                                       |
| <b>Route 8</b>   |                            | 45,113                     | <b>45,113</b>                                       |
| <b>Route 15</b>  |                            | 49,038                     | <b>49,038</b>                                       |
| <b>Route 20</b>  |                            | 93,009                     | <b>93,009</b>                                       |
| <b>Route 21</b>  |                            | 48,418                     | <b>48,418</b>                                       |
| <b>Route 36</b>  |                            | 64,244                     | <b>64,244</b>                                       |
| <b>Route 45</b>  | 6,199                      | 34,393                     | <b>40,592</b>                                       |
| <b>Route 47</b>  | 4,033                      | 25,758                     | <b>29,791</b>                                       |
| <b>Route 101</b> |                            | 32,591                     | <b>32,591</b>                                       |
| <b>Route 112</b> | 9,935                      | 48,344                     | <b>58,279</b>                                       |
| <b>Route 114</b> |                            | 34,286                     | <b>34,286</b>                                       |

For Limited/Express routes (**Table 6-10**), the analysis was conducted around the stops rather than along the full alignment because 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 by parking 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 414, and Route 967.

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 | 48,977   |
| Route 403 | 73,008   |
| Route 405 | 68,439   |
| Route 414 | 109,309  |
| Route 415 | 75,575   |
| Route 430 | 83,389   |
| Route 919 | 74,023   |
| Route 922 | 83,460   |
| Route 960 | 81,994   |
| Route 961 | 147,735  |
| Route 966 | 63,403   |
| Route 967 | 94,752   |
| Route 970 | 42,808   |
| Route 972 | 86,492   |

#### Access to High-Frequency Transit

With **Mobility** as a primary factor 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 1, Route 20, and Route 112, which all serve over 109,000 people and jobs. Route 1 and Route 20 serve a larger population than the other Regional Backbone routes with high-frequency service; while Route 2, Route 20, and Route 112 serve the greatest number of jobs with high-frequency service.

Table 6-11: Regional Backbone Routes - Population and Employment Access Within Half-Mile

| Route     | Population | Employment | Combined Population & Employment |
|-----------|------------|------------|----------------------------------|
| Route 1   | 80,457     | 32,519     | 112,976                          |
| Route 2   | 52,616     | 47,451     | 100,067                          |
| Route 3   | 51,638     | 26,332     | 93,719                           |
| Route 8   | 45,113     | 27,303     | 72,416                           |
| Route 15  | 49,038     | 42,687     | 91,725                           |
| Route 20  | 93,009     | 82,471     | 175,480                          |
| Route 21  | 48,418     | 10,867     | 59,285                           |
| Route 36  | 64,244     | 26,525     | 90,769                           |
| Route 45  | 34,393     | 33,779     | 76,420                           |
| Route 47  | 25,758     | 15,302     | 46,024                           |
| Route 101 | 32,591     | 11,003     | 43,594                           |
| Route 112 | 48,344     | 45,319     | 109,055                          |
| Route 114 | 34,286     | 21,390     | 55,676                           |

#### Multi-Modal Transit Connections

A third metric under the **Mobility** factor is access to multi-modal transit options. Implementing the high-frequency network will not only increase levels of service on those routes but will enhance connections and transfers throughout the entire HRT system. The increased frequency of these routes plus the standardization of span across the region for all routes will result in more consistent and reliable transfer opportunities for all riders.

**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   | 2   | 7   | 9   | 18  |                          |                             |
| Route 2   | 2   | 6   | 8   | 16  | Yes                      |                             |
| Route 3   | 2   | 7   | 8   | 17  |                          |                             |
| Route 8   | 2   | 7   | 8   | 17  | Yes                      |                             |
| Route 15  | 3   | 5   | 8   | 16  | Yes                      |                             |
| Route 20  | 2   | 7   | 16  | 25  | Yes                      |                             |
| Route 21  | 1   | 5   | 2   | 8   |                          |                             |
| Route 36  | 3   | 1   | 7   | 11  |                          |                             |
| Route 45  | 3   | 6   | 10  | 19  | Yes                      | Suffolk                     |
| Route 47  | 0   | 1   | 3   | 4   |                          | Suffolk                     |
| Route 101 | 11  | 2   | 9   | 22  |                          |                             |
| Route 112 | 11  | 2   | 9   | 22  |                          | WATA                        |
| Route 114 | 6   | 2   | 10  | 18  |                          |                             |

### 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                     | 20.0                        | 15.0                    |
| Route 2   | 15.0                        | 7.5                     | 15.0                        | 15.0                    | 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                        | 15.0                    | 15.0                        | 15.0                    |
| Route 15  | 7.5                         | 7.5                     | 15.0                        | 15.0                    | 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                        | 15.0                    | 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

This section contains route profiles that describe the planned service improvements under the Program. There are 13 Regional Backbone routes and 14 Limited/Express routes in the Program. Each route profile contains:

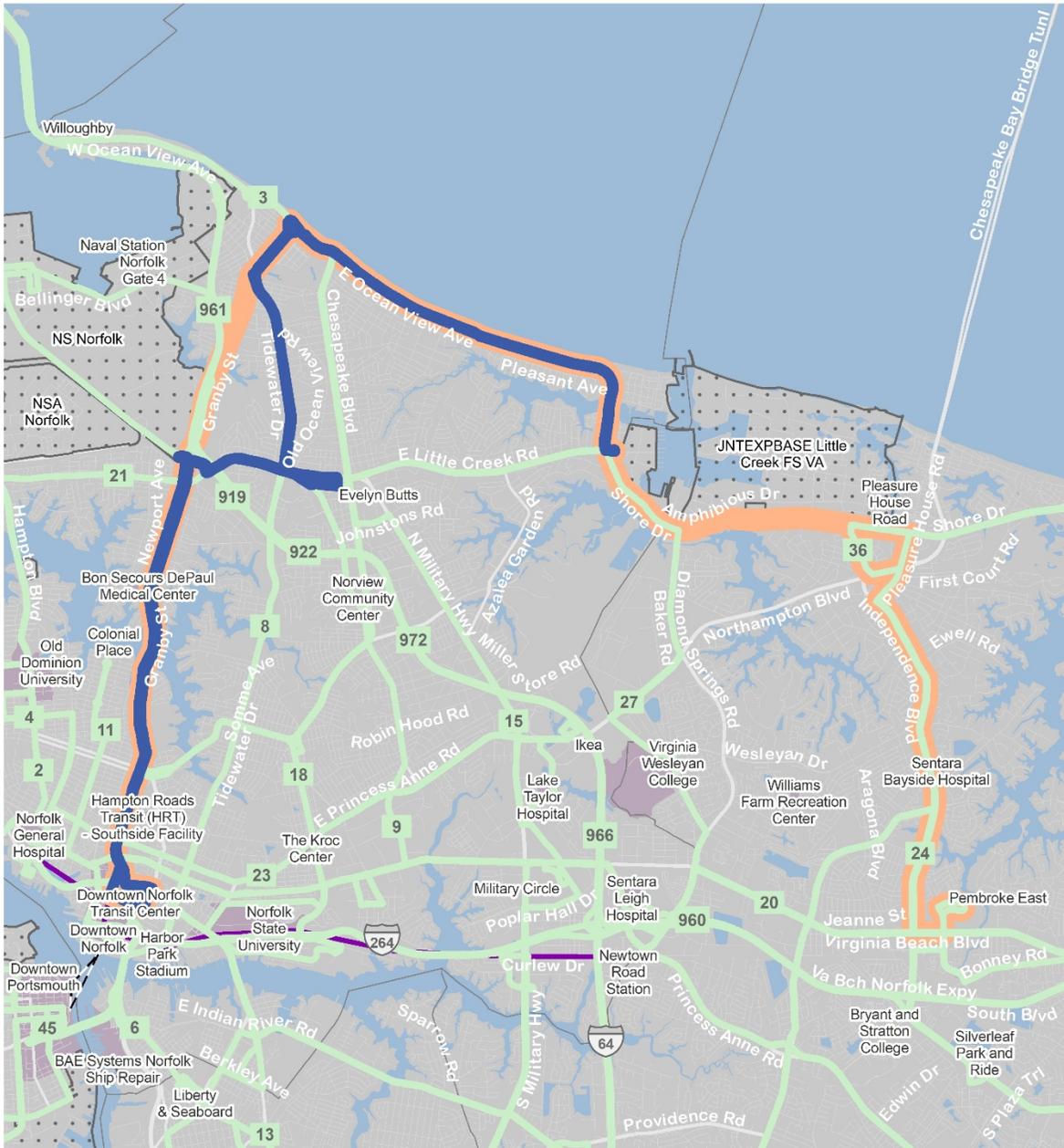
- A description of the service changes.
- The justifications for the service changes.
  - Key Performance Indicators, which are measures of a route’s performance, are discussed when relevant to a service change (full performance analysis data can be found in **Chapter 2, Section 2.3**).
  - Some justifications 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 <b>Section 2.3.2</b> |
|   | 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 targets<sup>8</sup> 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 AM
    - **AM Peak:** 6:00 AM to 9:00 AM
    - **Midday:** 9:00 AM to 3:00 PM
    - **PM Peak:** 3:00 PM to 6:00 PM
    - **Evening:** 6:00 PM to 11:00 PM
    - **Late Night:** After 11:00 PM
  - On weekends the periods shown are approximately associated with the following times:
    - **Base:** 8:00 AM – 6:00 PM
    - **Non-Base:** 6:00 AM. – 8:00 AM and 6:00 PM – 9:00 PM
    - **Early/Late:** before 6:00 AM and after 9:00 PM
- A place for any special notes that apply to the route.
- A map showing the route, other related routes, and other relevant transportation information.

<sup>8</sup> 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 Bases
- City Boundary
- Activity Centers



## Route 1

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |  |  |
|--|--|--|
|  | Existing   | Planned  |
| To / From                                      | Downtown Norfolk Transit Center /<br>Pembroke East | Downtown Norfolk Transit Center /<br>Joint Expeditionary Base Little Creek |
| Jurisdictions                                  | Norfolk, Virginia Beach                            | Norfolk, Virginia Beach  |

| Level of Service |              |                   |                   |
|------------------|--------------|-------------------|-------------------|
| Span             |              |                   |                   |
|                  |              | Existing          | Service Target    |
| <b>Weekday</b>   |              | 4:44 AM - 1:30 AM | 4:44 AM - 1:30 AM |
| <b>Saturday</b>  |              | 4:40 AM - 1:31 AM | 4:40 AM - 1:30 AM |
| <b>Sunday</b>    |              | 5:37 AM - 1:30 AM | 4:40 AM - 1:30 AM |
| Headway          |              |                   |                   |
|                  |              | Existing          | Service Target    |
| <b>Weekday</b>   | Early        | 30                | 30                |
|                  | AM Peak      | 15                | 15                |
|                  | Midday       | 30                | 15                |
|                  | PM Peak      | 15                | 15                |
|                  | Evening      | 40                | 30                |
|                  | Late Night   | 60                | 60                |
| <b>Saturday</b>  | Base         | 30                | 15                |
|                  | Non-Base     | 30                | 30                |
|                  | Early / Late | 60                | 60                |
| <b>Sunday</b>    | 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

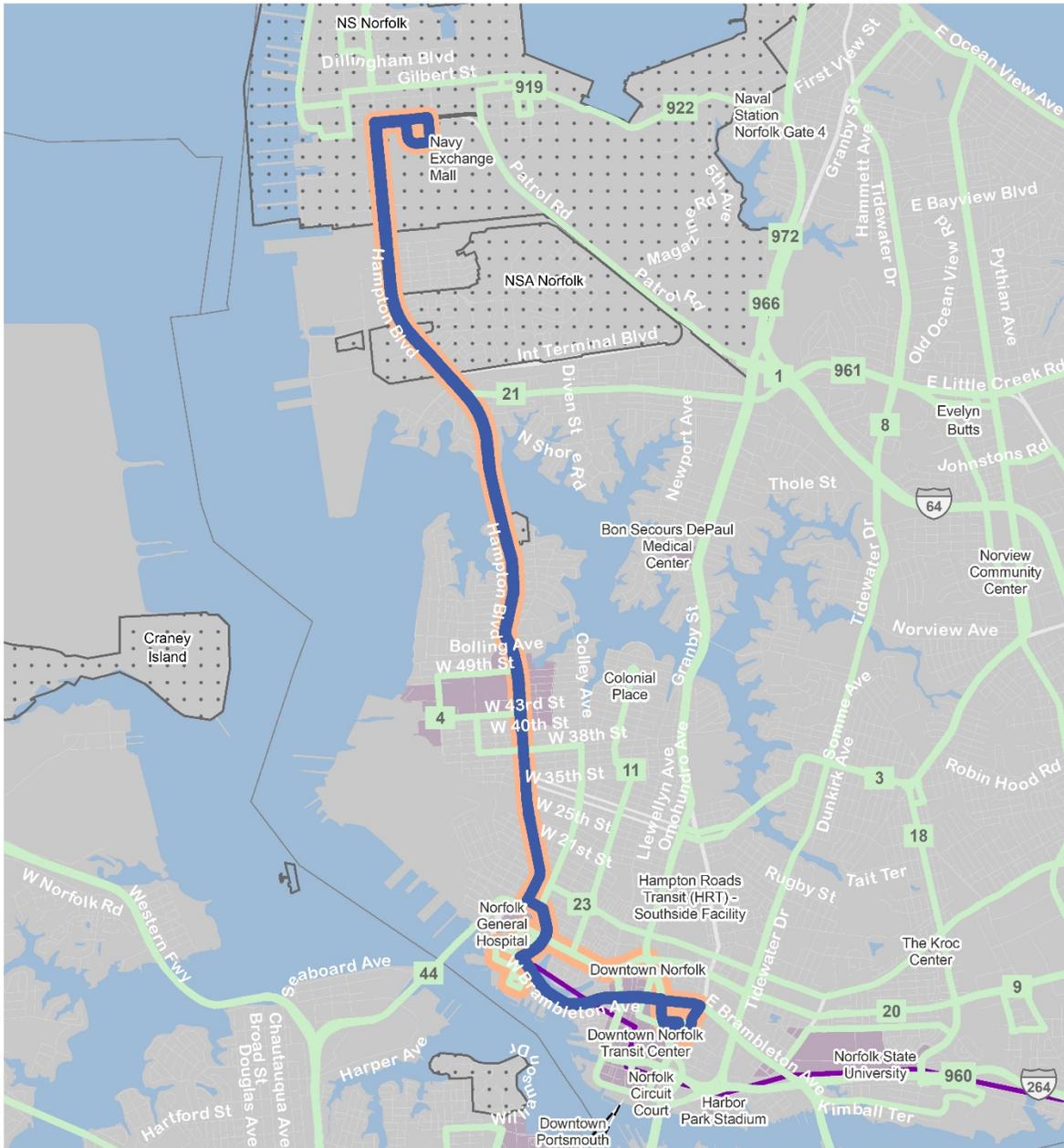
- Route 1 will operate along its current alignment between the Downtown Norfolk Transit Center (DNTC) and Wards Corner. It will be realigned at Wards Corner and deviate onto Little Creek Boulevard to service Evelyn T. Butts. Route 1 will travel on Tidewater Drive between Little Creek Boulevard and Lenox Avenue, replacing existing service on Granby Street. Between Lenox Avenue and Joint Expeditionary Base (JEB) Little Creek Route 1 will operate along its existing alignment on Ocean View Avenue. Service east of the JEB Little Creek will be discontinued on Route 1; however, much of the service along the discontinued segments will be covered by Routes 27 and 36.
- Eliminate short turns on Route 1 so that all trips operate the full length of the route.
- Weekday span of service remains the same as current Route 1 service. Route 1 will operate with 15-minute service between the AM and PM peak periods. In the early and evening periods service will be provided at half hour intervals. The route will operate hourly after 11:00 PM. Saturday service span on Route 1 will be offered between 4:40 AM and 1:30 AM, which matches the current Route 1 service, with 15-minute service through much of the day. Sunday service will be provided at levels that match Saturday service.



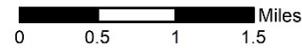
## Justification

- 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). This corridor has a high concentration of multimodal service areas identified in the level of service analysis.
- The service levels for Route 1 meet the service standards defined for Regional Backbone routes.

## Route 2



## Route 2



### Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Bases
- City Boundary
- Activity Centers



## Route 2

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |  |  |
|--|--|--|
|  | Existing   | Planned  |
| To / From                                      | Navy Exchange Mall /<br>Downtown Norfolk<br>Transit Center | Navy Exchange Mall /<br>Downtown Norfolk<br>Transit Center |
| Jurisdictions                                  | Norfolk  | Norfolk  |

| Level of Service |                 |                    |                   |
|------------------|-----------------|--------------------|-------------------|
| Span             |                 |                    |                   |
|                  |                 | Existing           | Service Target    |
|                  | <b>Weekday</b>  | 4:51 AM - 11:42 PM | 4:51 AM - 1:00 AM |
|                  | <b>Saturday</b> | 5:11 AM - 1:04 AM  | 5:11 AM - 1:00 AM |
|                  | <b>Sunday</b>   | 5:28 AM - 12:10 AM | 5:11 AM - 1:00 AM |
| Headway          |                 |                    |                   |
|                  |                 | Existing           | Service Target    |
| <b>Weekday</b>   | Early           | 30                 | 30                |
|                  | AM Peak         | 30                 | 15                |
|                  | Midday          | 30                 | 30                |
|                  | PM Peak         | 30                 | 15                |
|                  | Evening         | 49                 | 30                |
|                  | Late Night      | 60                 | 60                |
| <b>Saturday</b>  | Base            | 60                 | 30                |
|                  | Non-Base        | 60                 | 30                |
|                  | Early /<br>Late | 60                 | 60                |
| <b>Sunday</b>    | Base            | 60                 | 30                |
|                  | Non-Base        | 60                 | 30                |
|                  | Early /<br>Late | 60                 | 60                |

## Service Changes

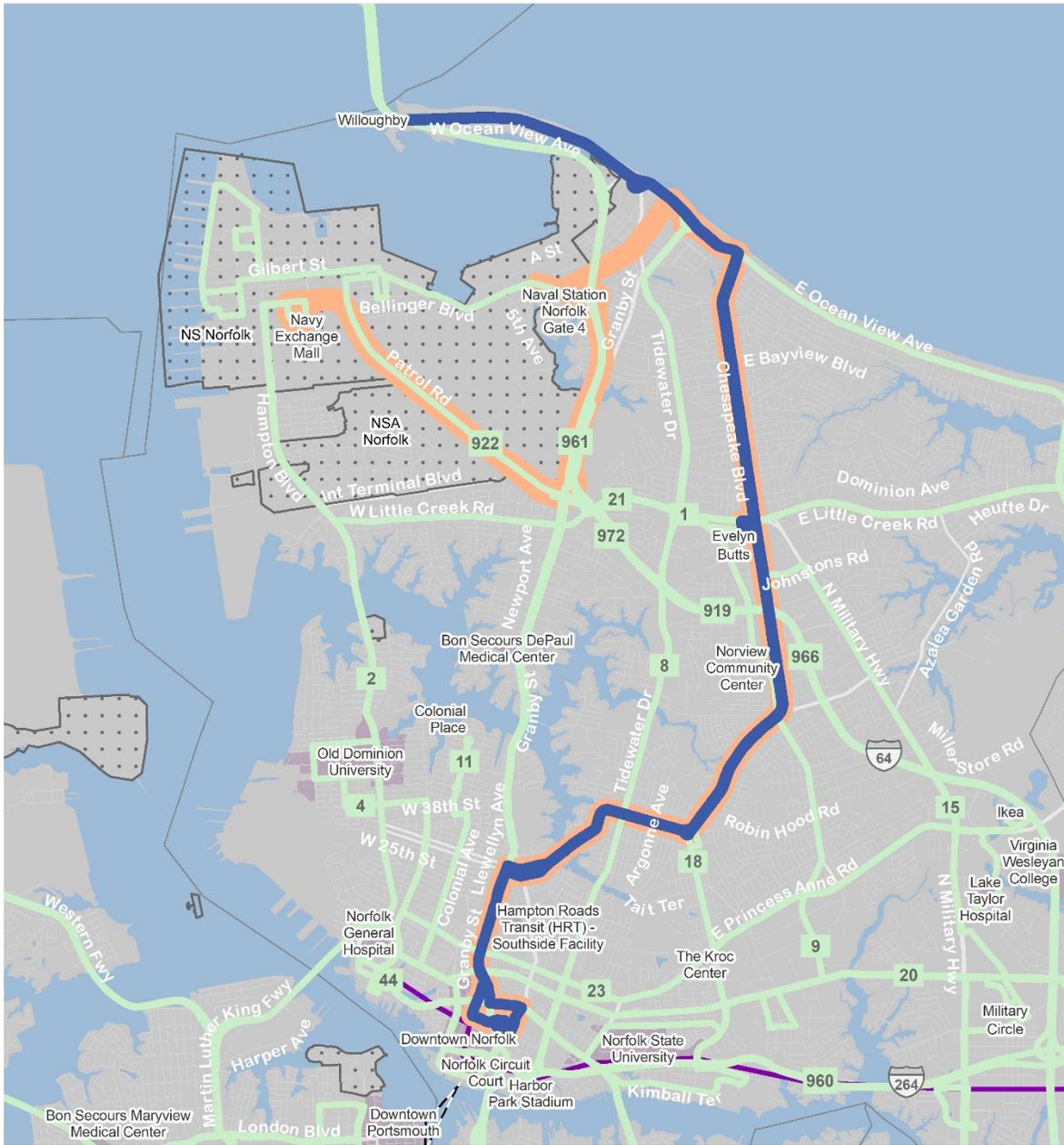
- Route 2 will be realigned to travel on Hampton Boulevard, Redgate Avenue, Colley Avenue, and Brambleton Avenue in order to streamline the service through Downtown Norfolk. The realigned Route 2 will be more direct compared to its existing alignment. Route 2 will still operate within a short walking distance of Norfolk General Hospital via Colley 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 or Olney Road, which will be covered by service on the realigned Route 4.
- On weekdays during the peak period, Route 2 will operate every 15 minutes. During the evenings the route will operate every 30 minutes. Weekday span is increased with service ending at 1:00 AM.
- Weekend service will be provided between 5:11 AM and 1:00 AM and will be offered at half hour intervals through much of the service day.



## Justification

- The multimodal service index analysis 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 3



## Route 3



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## 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           | Service Target    |
| <b>Weekday</b>   |              | 4:51 AM - 1:27 AM  | 4:51 AM - 1:27 AM |
| <b>Saturday</b>  |              | 5:21 AM - 1:27 AM  | 5:21 AM - 1:34 AM |
| <b>Sunday</b>    |              | 5:59 AM - 12:31 PM | 5:21 AM - 1:34 AM |
| Headway          |              |                    |                   |
|                  |              | Existing           | Service Target    |
| <b>Weekday</b>   | 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                |
| <b>Saturday</b>  | Base         | 30                 | 30                |
|                  | Non-Base     | 30                 | 30 / 60           |
|                  | Early / Late | 60                 | 60                |
| <b>Sunday</b>    | 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 Service Changes bullets.

## Service Changes

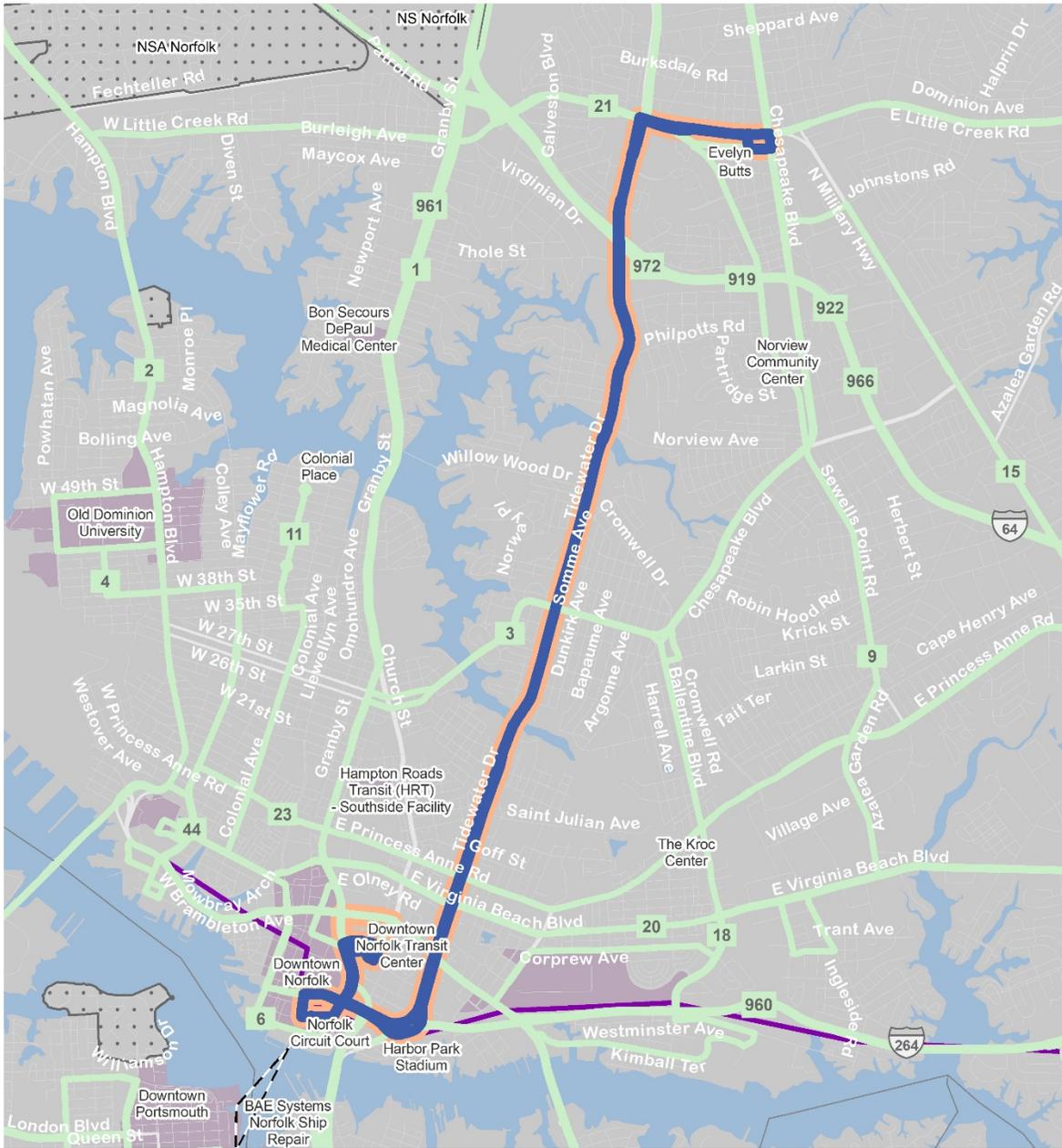
- The northern end of Route 3 will be realigned to serve Ocean View Avenue to Willoughby (covering a portion of the eliminated Route 5), providing a one-seat ride between Willoughby and Downtown Norfolk. Navy Exchange Mall will no longer be served via Route 3. To reach the Navy Exchange Mall passengers 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 half. Hourly service will be offered the full length of the route from Willoughby to DNTC late night. 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. Route 3 will maintain its existing weekday span.
- Weekend service will operate half hourly between 6:00 AM and 9:00 PM from Willoughby to DNTC. In the non-peak 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. Sunday has the same level of service as Saturday.



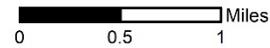
## Justification

- 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 8



## Route 8



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## Route 8

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |   |   |
|--|---|---|
|  | Existing                                  | Planned                                   |
| <b>To / From</b>                               | Downtown Norfolk / Evelyn T. Butts Avenue | Downtown Norfolk / Evelyn T. Butts Avenue |
| <b>Jurisdictions</b>                           | Norfolk                                   | Norfolk                                   |

| Level of Service |              |                    |                    |
|------------------|--------------|--------------------|--------------------|
| Span             |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   |              | 5:18 AM - 12:15 AM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 5:42 AM - 12:45 AM | 5:40 AM - 12:00 AM |
| <b>Sunday</b>    |              | 6:40 AM - 8:58 PM  | 5:40 AM - 12:00 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | 30                 | 30                 |
|                  | AM Peak      | 30                 | 15                 |
|                  | Midday       | 30                 | 30                 |
|                  | PM Peak      | 30                 | 15                 |
|                  | Evening      | 42                 | 30                 |
|                  | Late Night   | 60                 | 60                 |
| <b>Saturday</b>  | Base         | 30                 | 30                 |
|                  | Non-Base     | 30                 | 30                 |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | Base         | 60                 | 30                 |
|                  | Non-Base     | -                  | 30                 |
|                  | Early / Late | -                  | 60                 |

## Service Changes

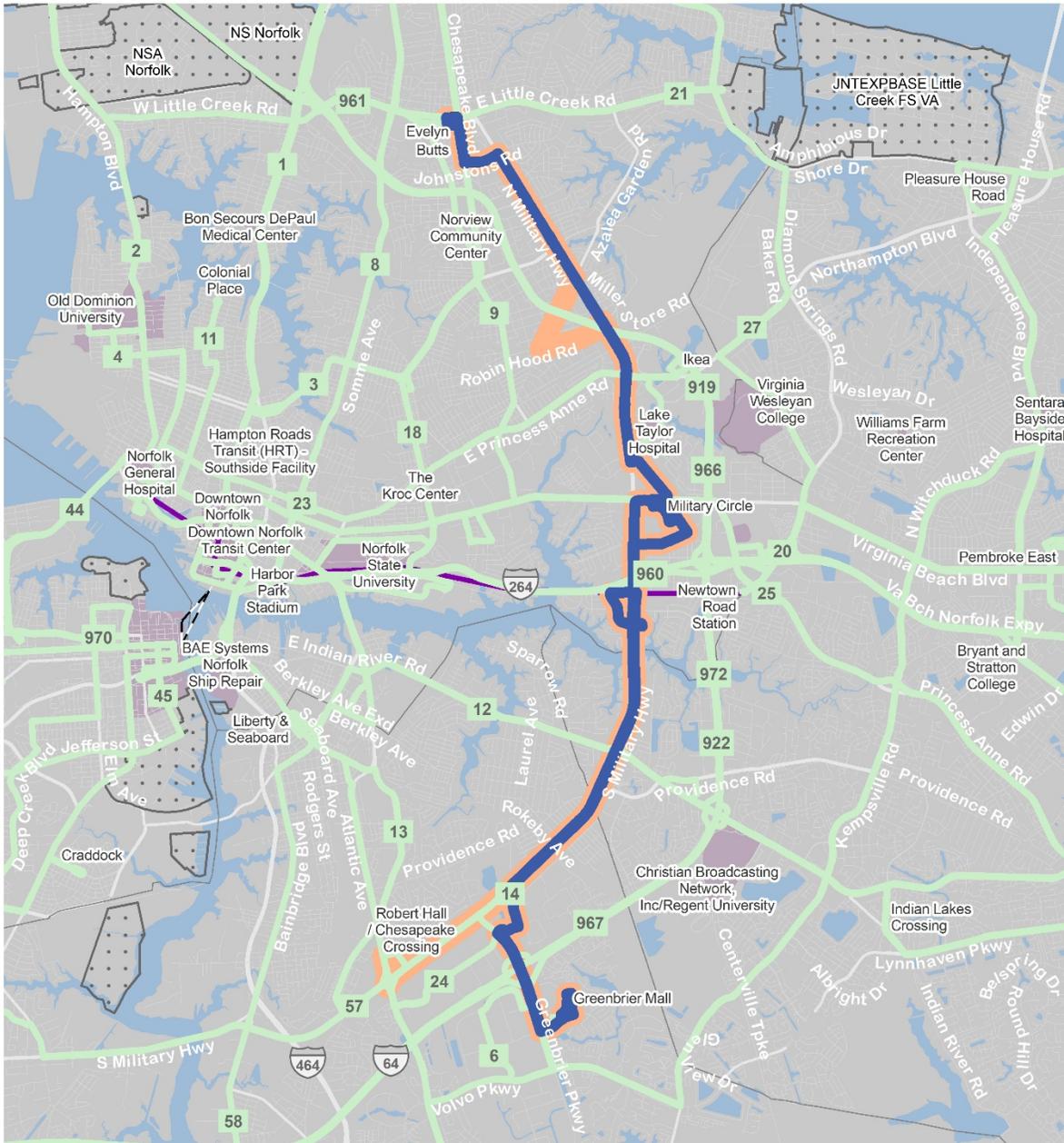
- There are no alignment changes.
- As a Regional Backbone route, on weekdays Route 8 will provide service between 5:00 AM and 1:00 AM and will operate with 15-minute service in the AM and PM peak periods; half hour service in the early, midday, and evening periods; and hourly service in the late-night period.
- On weekends Route 8 will operate between 5:40 AM and 12:00 AM, 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 hours.



## 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 peak period service to 15-minute headways along the existing alignment should help increase service utilization and will also act as an important connecting service to several other routes.
- The service levels for Route 8 meet the service standards defined for Regional Backbone routes.

## Route 15



## Route 15



### Focus Route

-  Planned Alignment
-  Existing Alignment
-  Planned System
-  Light Rail
-  Ferry
-  Military Bases
-  City Boundary
-  Activity Centers



## Route 15

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |  |  |
|--|--|--|
|  | Existing                                       | Planned                                  |
| <b>To / From</b>                               | Robert Hall Boulevard / Evelyn T. Butts Avenue | Greenbrier Mall / Evelyn T. Butts Avenue |
| <b>Jurisdictions</b>                           | Chesapeake, Norfolk, Virginia Beach            | Chesapeake, Norfolk, Virginia Beach      |

| Level of Service |              |                    |                    |
|------------------|--------------|--------------------|--------------------|
| Span             |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   |              | 4:48 AM - 1:17 AM  | 5:00 AM - 1:15 AM  |
| <b>Saturday</b>  |              | 5:18 AM - 12:45 AM | 5:18 AM - 12:00 AM |
| <b>Sunday</b>    |              | 6:46 AM - 12:45 AM | 5:18 AM - 12:00 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | 30                 | 30                 |
|                  | AM Peak      | 15                 | 15                 |
|                  | Midday       | 30                 | 30                 |
|                  | PM Peak      | 15                 | 15                 |
|                  | Evening      | 30                 | 30                 |
|                  | Late Night   | 60                 | 60                 |
| <b>Saturday</b>  | Base         | 30                 | 30                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | 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. |  |

## Service Changes

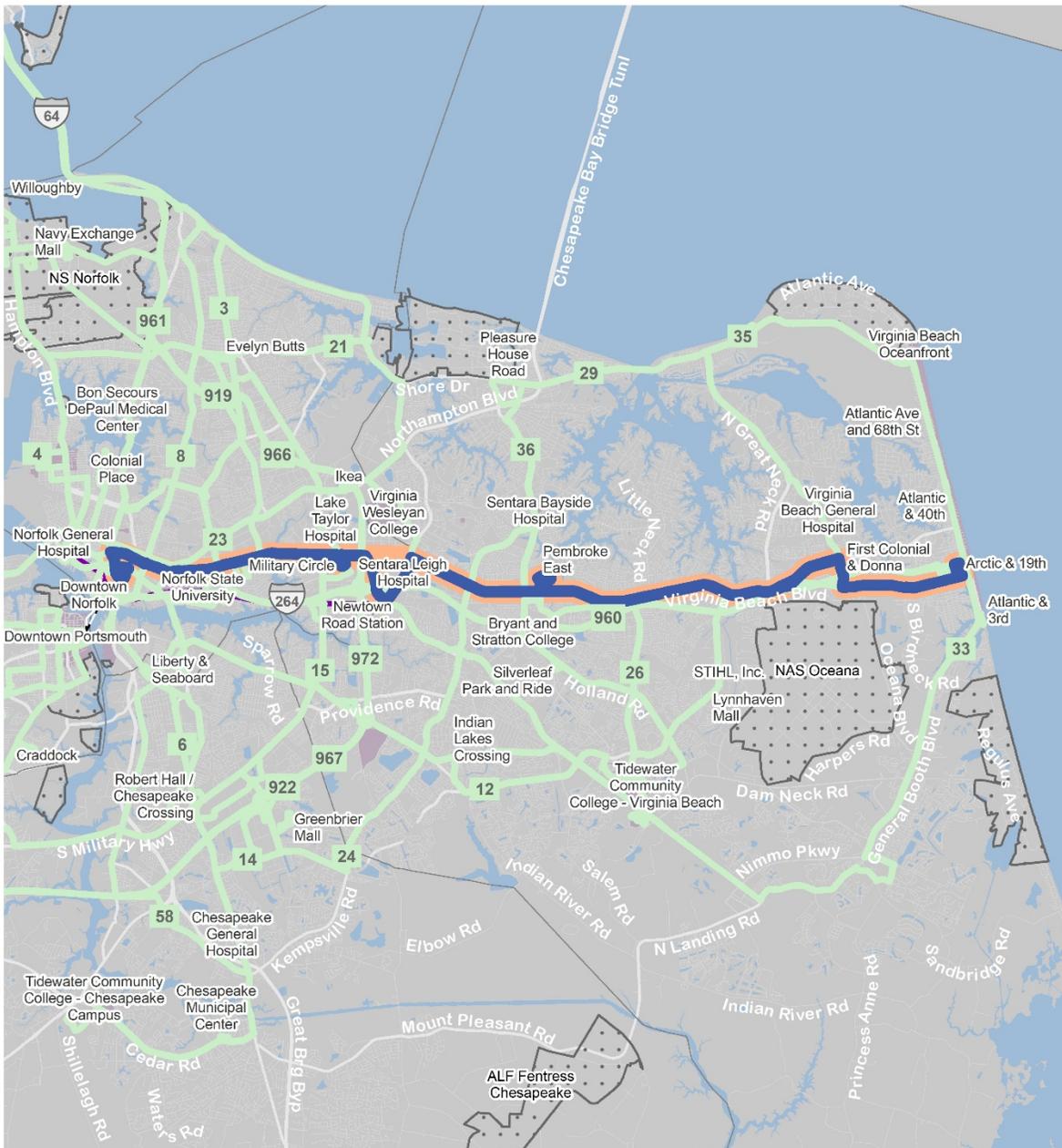
- Route 15 will be streamlined along Military Highway by eliminating the diversion onto Azalea Garden Road and Robin Hood Road. Upon reaching Old Greenbrier Road, it will serve Greenbrier Mall using the route's current alignment.
- The streamlined short turn between Evelyn T. Butts and Curlew Boulevard, serving the Military Highway light rail station, will be maintained for some years until it can be eliminated. The elimination of the short turn will create improved levels of service across the entire route.
- The current service to Chesapeake Crossing via Military Highway will be removed from Route 15 and replaced with service on the realigned Route 57. Route 15 will serve Greenbrier Mall in lieu of Chesapeake Crossing, which will allow Route 15 to provide connections where there is a higher concentration of other HRT routes.
- The current weekday service levels will be maintained, starting service at 5:00 AM and ending at 1:15 AM. AM and PM peak service will be provided at 15-minute intervals; half hour service will be provided during the early morning, midday and evening periods; and hourly service will be provided during the late-night period. While the short turn still exists, the shorter headways will only be offered on the short turn, and double the headway will be offered on the pattern operating between Evelyn Butts and Greenbrier; once the short turn is eliminated, the shorter headways will be offered along the full length of the route.
- Saturday service on Route 15 will be offered between 5:18 AM and midnight at half hour intervals through much of the service day. Sunday service will be offered at the same level as provided on Saturdays.



## Justification

- Route 15 performs well on the six Key Performance Indicators (KPI), especially the passengers per hour measures—Route 15 has 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 changes to Route 15 will help to decrease overall route travel time, improve route directness, and enhance frequent connections between Norfolk and Chesapeake, all factors that will help to increase the attractiveness of this service.
- The service levels for Route 15 meet the service standards defined for Regional Backbone routes.

## Route 20



## Route 20



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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          | Service Target                |
| <b>Weekday</b>   |              | 4:52 AM - 1:15 AM | 4:52 AM - 1:15 AM             |
| <b>Saturday</b>  |              | 5:22 AM - 1:14 AM | 5:00 AM - 1:14 AM             |
| <b>Sunday</b>    |              | 6:23 AM - 1:13 AM | 5:00 AM - 1:14 AM             |
| Headway          |              |                   |                               |
|                  |              | Existing          | Service Target                |
| <b>Weekday</b>   | Early        | 30                | 30                            |
|                  | AM Peak      | 15                | 15                            |
|                  | Midday       | 30                | 15                            |
|                  | PM Peak      | 15                | 15                            |
|                  | Evening      | 46                | 30 until 7:00 PM,<br>60 after |
|                  | Late Night   | 60                | 60                            |
| <b>Saturday</b>  | Base         | 30                | 15                            |
|                  | Non-Base     | 30                | 30                            |
|                  | Early / Late | 60                | 60                            |
| <b>Sunday</b>    | 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

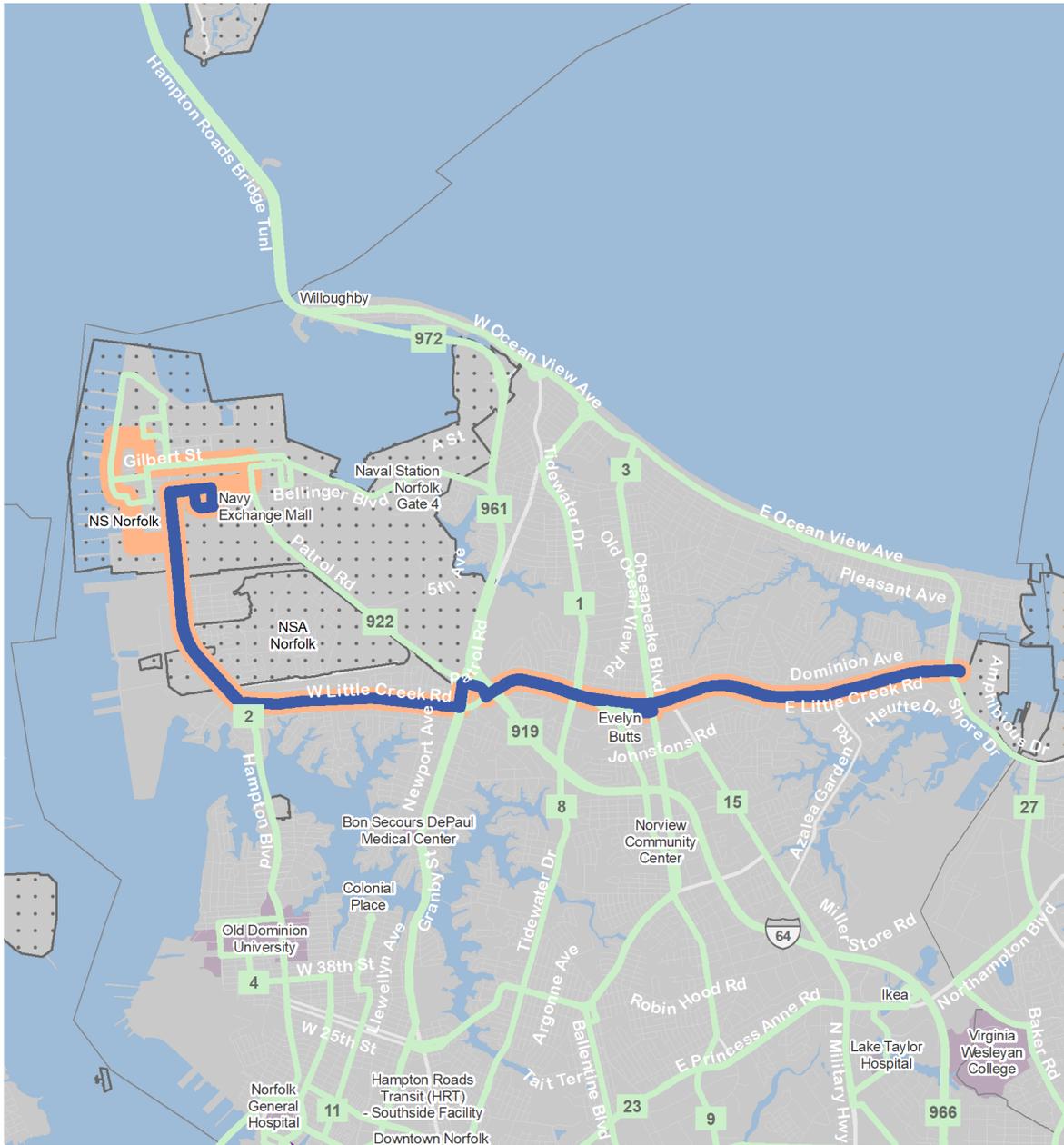
- Route 20 will be realigned to serve the Newtown Road light rail station via Kempsville Road and Newtown Road instead of going up and down Kempsville Road in both directions. Short turns on this route will be eliminated.
- The current weekday span will be maintained, operating between 4:52 AM and 1:15 PM, with service provided every 15-minutes between the AM and PM peak periods across the whole length of the route. During the early morning and evening periods service will be increased to half hour intervals across the whole route, with hourly service being offered in the late-night period.
- Saturday service will be offered between 5:00 AM and 1:14 AM with 15-minute service being offered through much of the day. Sunday service will be increased to match Saturday levels.



## 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 21



## Route 21



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 21

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |  |  |
|--|--|--|
|  | Existing   | Planned  |
| To / From                                      | Naval Station Norfolk / Navy Exchange Mall / Joint Expeditionary Base Little Creek | Navy Exchange Mall / Joint Expeditionary Base Little Creek |
| Jurisdictions                                  | Norfolk  | Norfolk, Virginia Beach                                    |

| Level of Service |              |                   |                   |
|------------------|--------------|-------------------|-------------------|
| Span             |              |                   |                   |
|                  |              | Existing          | Service Target    |
| <b>Weekday</b>   |              | 5:11 AM - 1:17 AM | 5:00 AM - 1:00 AM |
| <b>Saturday</b>  |              | 5:12 AM - 1:38 AM | 5:00 AM - 1:00 AM |
| <b>Sunday</b>    |              | 6:43 AM - 1:38 AM | 5:00 AM - 1:00 AM |
| Headway          |              |                   |                   |
|                  |              | Existing          | Service Target    |
| <b>Weekday</b>   | Early        | 30                | 30                |
|                  | AM Peak      | 30                | 15                |
|                  | Midday       | 30                | 30                |
|                  | PM Peak      | 30                | 15                |
|                  | Evening      | 43                | 30                |
|                  | Late Night   | 60                | 60                |
| <b>Saturday</b>  | Base         | 30                | 30                |
|                  | Non-Base     | 30                | 30                |
|                  | Early / Late | 60                | 60                |
| <b>Sunday</b>    | Base         | 60                | 30                |
|                  | Non-Base     | 60                | 30                |
|                  | Early / Late | 60                | 60                |

## Service Changes

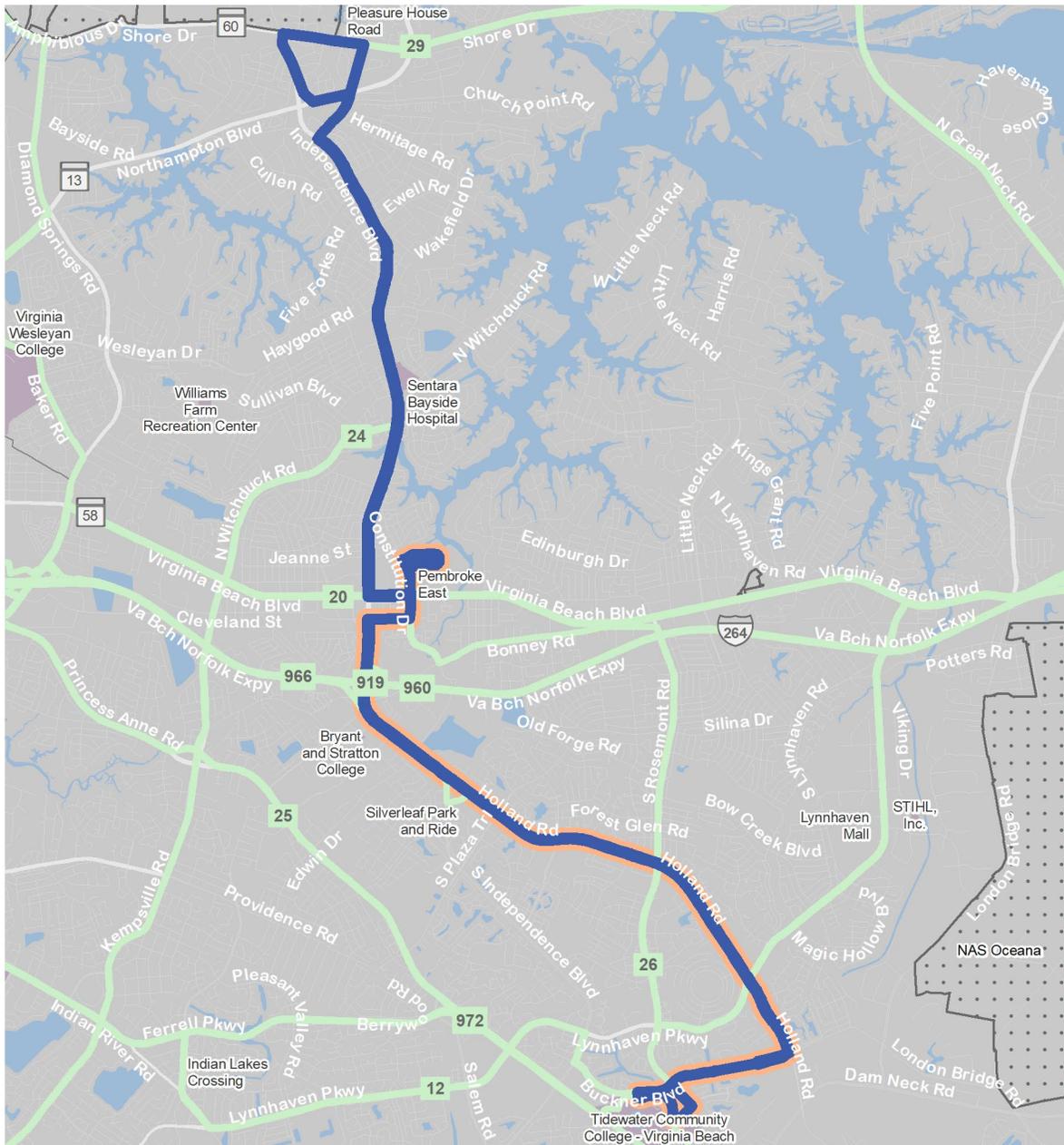
- All trips will go directly to Navy Exchange Mall and not deviate through the naval base, no longer serving the B Avenue and Virginia Avenue stop.
- Route 21 is a Regional Backbone route and service will be increased to every 15-minutes in the peak periods on the weekdays to meet the service classification standard, and evening service will be improved to every half hour.
- Weekday and weekend service will be offered between 5:00 AM and 1:00 AM. On Saturdays there will be half hour service through much of the day, representing an increase over the existing Saturday service. Sunday service will be increased to match Saturday levels.



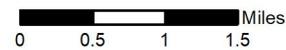
## Justification

- 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 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 36



## Route 36



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## 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           | Service Target     |
| <b>Weekday</b>   |              | 5:48 AM - 10:41 PM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 6:10 AM - 10:43 PM | 5:00 AM - 12:00 AM |
| <b>Sunday</b>    |              | -                  | 5:00 AM - 12:00 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | 30                 | 30                 |
|                  | AM Peak      | 30                 | 15                 |
|                  | Midday       | 60                 | 30                 |
|                  | PM Peak      | 30                 | 15                 |
|                  | Evening      | 60                 | 30                 |
|                  | Late Night   | -                  | 60                 |
| <b>Saturday</b>  | Base         | 60                 | 30                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | Base         | -                  | 30                 |
|                  | Non-Base     | -                  | 30                 |
|                  | Early / Late | -                  | 60                 |

## Service Changes

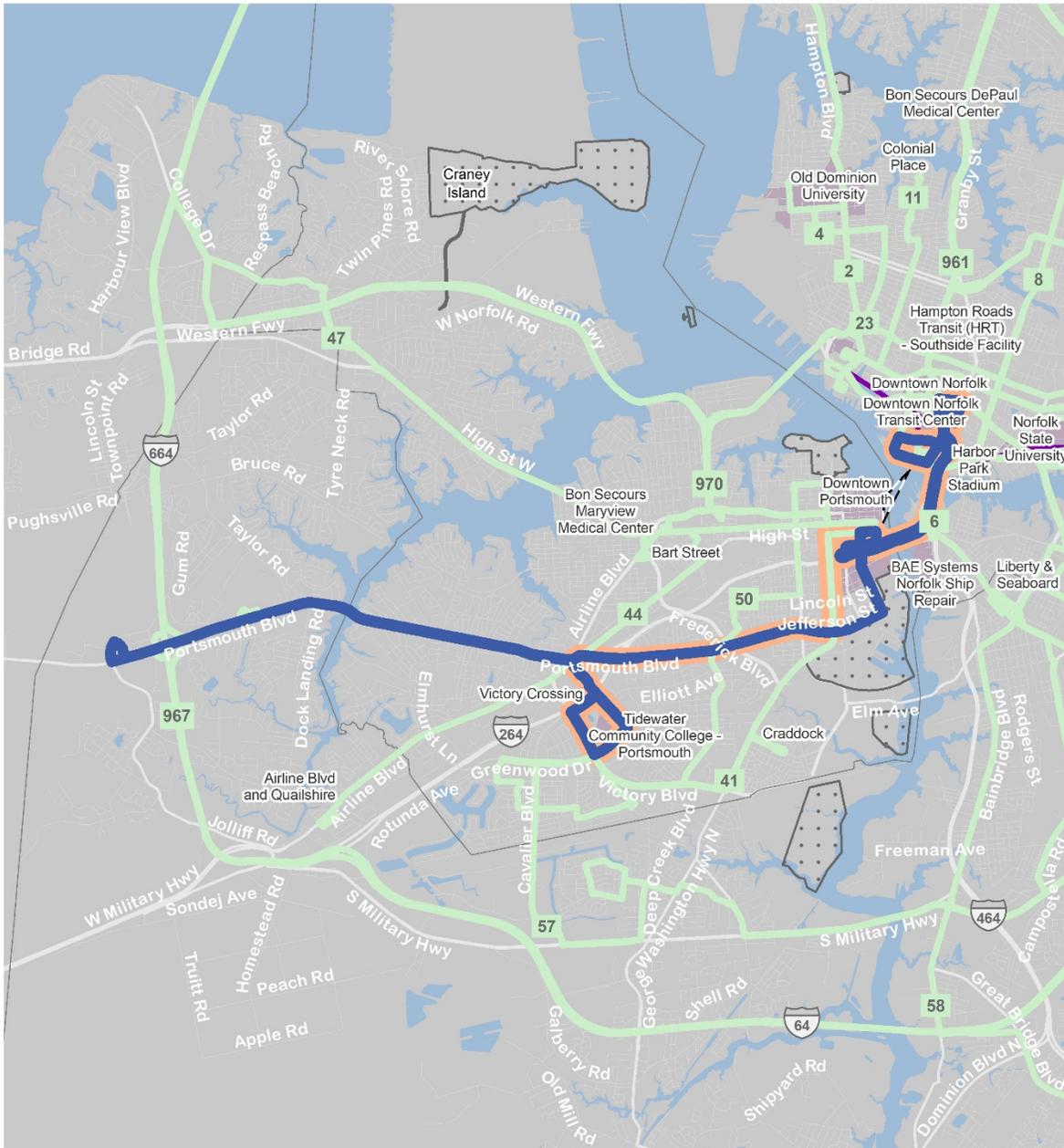
- Route 36 will be extended to Pleasure House Road and Shore Drive north of Pembroke East. Route 36 will cover the Independence Boulevard corridor currently served by Route 1.
- On weekdays Route 36 will provide 15-minute service during the peak periods and 30-minute service during the early, midday, and evening periods. Hourly service will be provided from 9:00 PM to 1:00 AM. Weekday span of service will be extended to operate between 5:00 AM and 1:00 AM.
- On weekends, Sunday service will be added and the span of service for both weekend days will be from 5:00 AM 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 help to allow for the truncating of the current Route 1 to JEB Little Creek by providing the north-south connection between Virginia Beach Avenue and Pleasure House Road in this area. 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 45



## Route 45



### Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

- Military Bases
- City Boundary
- Activity Centers



## 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           | Service Target     |
| Weekday          |              | 4:39 AM - 11:54 PM | 4:39 AM - 1:00 AM  |
| Saturday         |              | 5:10 AM - 12:51 AM | 5:10 AM - 12:51 AM |
| Sunday           |              | 6:06 AM - 10:51 PM | 5:10 AM - 12:51 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| 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

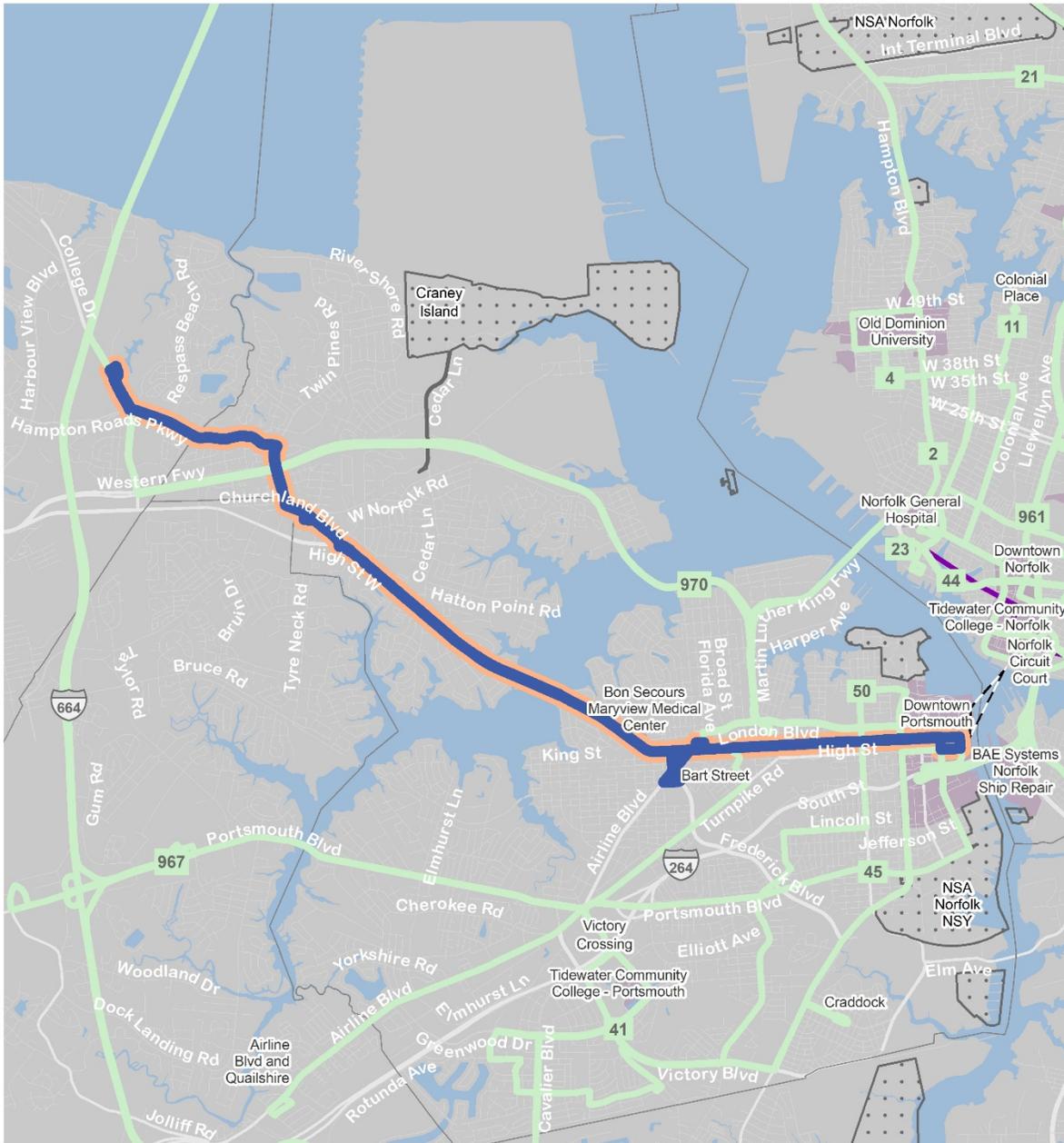
- Route 45 will be extended to Starmount Parkway and Joliff Road to cover the eliminated segment of Portsmouth Boulevard currently served by Route 44.
- In Downtown Portsmouth, Route 45 will operate via Port Centre Parkway and Portsmouth Boulevard instead of via Effingham Street and Court Street (service 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 AM and 1:00 AM between Victory Crossing, Downtown Portsmouth, and Norfolk. Route 45 will provide 15-minute service between Victory Crossing and Downtown Norfolk during AM and PM peak periods, with non-peak period (except late night) service being offered at half hour intervals within Portsmouth and to Norfolk.
- Throughout the span of service, hourly service will be provided between Norfolk and Starmount Parkway and Joliff Road. After 7:00 PM service will be provided to TCC Portsmouth (College/McLean) and will still serve Starmount Parkway and Joliff Road.
- The Saturday span of service will be maintained from the current Route 45 service levels, beginning at 5:10 AM and ending at 12:51 AM. Half hour service will be offered between Norfolk and Victory Crossing, and hourly service will be offered across the whole length of the route before and after that time period. No Saturday service will be provided to College/McLean.
- Sunday service will be extended to 12:51 AM and will offer the same levels of service as provided on Saturdays. No Sunday service will be provided to College/McLean.



## 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 service levels for Route 45 meet the service standards defined for Regional Backbone routes.

## Route 47



# Route 47



### Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- Ferry

- Military Bases
- City Boundary
- Activity Centers



## Route 47

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |                                  |                                  |
|--|----------------------------------|----------------------------------|
|  | Existing                         | Planned                          |
| <b>To / From</b>                               | Downtown Portsmouth / Churchland | Downtown Portsmouth / Churchland |
| <b>Jurisdictions</b>                           | Suffolk, Portsmouth              | Suffolk, Portsmouth              |

| Level of Service |              |                    |                    |
|------------------|--------------|--------------------|--------------------|
| Span             |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   |              | 5:49 AM - 10:30 PM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 6:03 AM - 10:30 PM | 5:00 AM - 12:00 AM |
| <b>Sunday</b>    |              | 6:33 AM - 7:30 PM  | 5:00 AM - 12:00 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | 30                 | 30 / 60            |
|                  | AM Peak      | 15                 | 15 / 30            |
|                  | Midday       | 30                 | 30                 |
|                  | PM Peak      | 15                 | 15 / 30            |
|                  | Evening      | 30                 | 30 / 60            |
|                  | Late Night   | -                  | 60                 |
| <b>Saturday</b>  | Base         | 30                 | 30                 |
|                  | Non-Base     | 60                 | 30 / 60            |
|                  | Early / Late | -                  | 60                 |
| <b>Sunday</b>    | 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

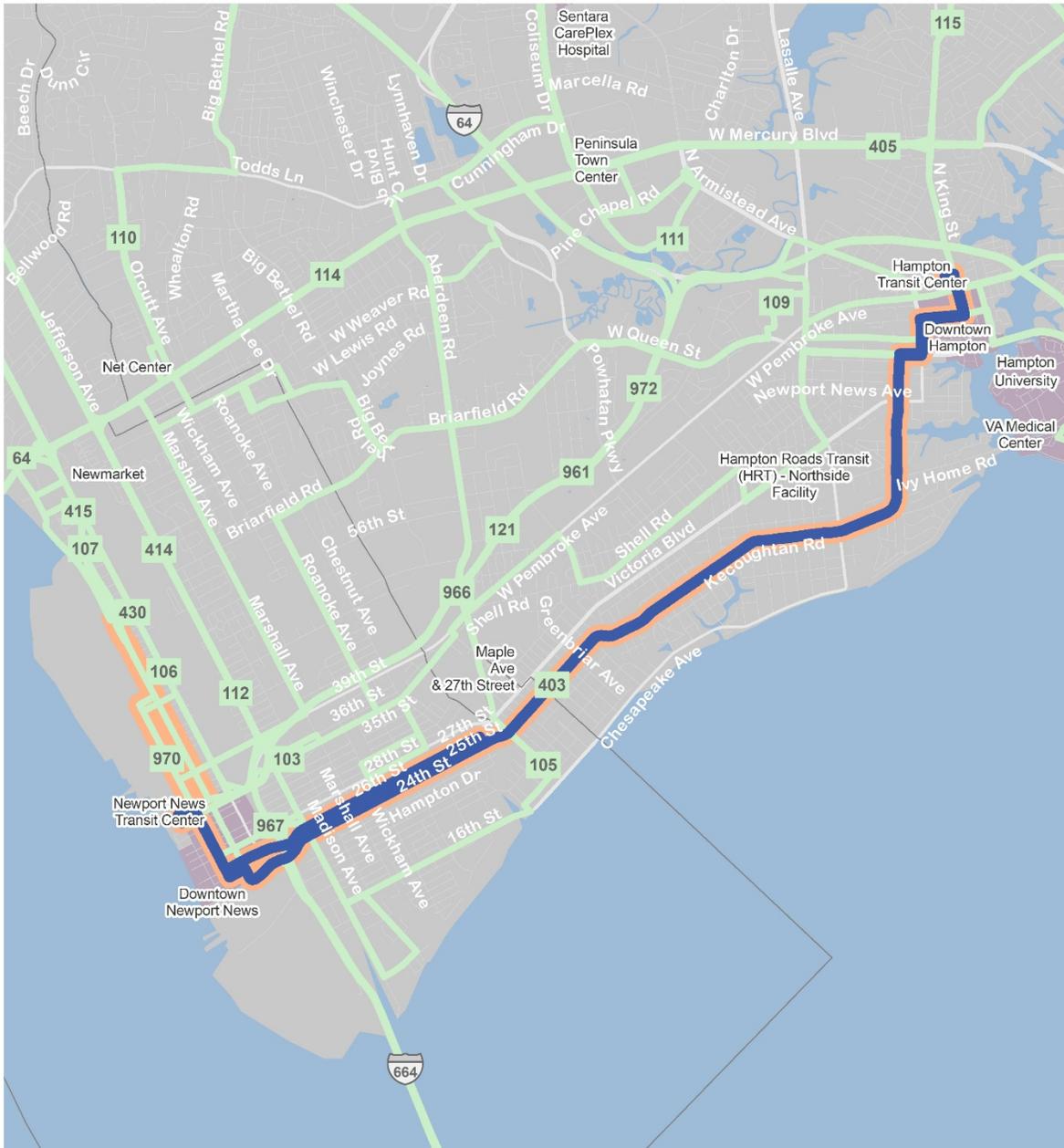
- The alignment for Route 47 will remain predominantly the same as existing, with the addition of providing hourly service between downtown Portsmouth and the Walmart/Frederick Boulevard commercial area; with the elimination of Route 43, Route 47 will continue to provide this connection at an hourly interval and will also provide a longer span of service 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 and 60-minute service from College Drive and Lake View Parkway to County Street and Court Street. During the weekday midday period there will be 30-minute service between Village Street and Churchland Boulevard and County Street and Court Street and 60-minute service from College Drive and Lake View Parkway to County Street and Court Street.
- The span of service will be extended, with service starting at 5:00 AM and ending at 1:00 AM, meeting Regional Backbone standards. The route will have increased weekday evening service every 30-minutes between Village Street and Churchland Boulevard and County Street and Court Street and extended hourly service to College Drive and Lake View Parkway.
- Early and late-night service should operate every 60-minutes between College Drive and Lake View Parkway and County Street and Court Street.
- During the weekend period, the span will be extended to 5:00 AM to midnight to meet Regional Backbone service design standards, with 30-minute service from 6:00 AM to 9:00 PM on the short-turn and hourly service along the whole length of the route for the full span of service.



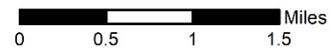
## Justification

- 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 101



## Route 101



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 101

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |   |   |
|--|---|---|
|  | Existing  | Planned   |
| To / From                                      | (Kecoughtan) owtown<br>Newport News /<br>Downtown Hampton | (Kecoughtan) owtown<br>Newport News /<br>Downtown Hampton |
| Jurisdictions                                  | Hampton,<br>Newport News                                  | Hampton,<br>Newport News                                  |

| Level of Service |              |                    |                    |
|------------------|--------------|--------------------|--------------------|
| Span             |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   |              | 5:15 AM - 12:10 AM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 5:15 AM - 12:10 AM | 5:15 AM - 12:10 AM |
| <b>Sunday</b>    |              | 5:45 AM - 7:38 PM  | 5:15 AM - 12:10 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | 30                 | 30                 |
|                  | AM Peak      | 35                 | 15                 |
|                  | Midday       | 35                 | 30                 |
|                  | PM Peak      | 35                 | 15                 |
|                  | Evening      | 60                 | 30                 |
|                  | Late Night   | 60                 | 60                 |
| <b>Saturday</b>  | Base         | 35                 | 30                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | Base         | 60                 | 30                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | -                  | 60                 |

### Service Changes

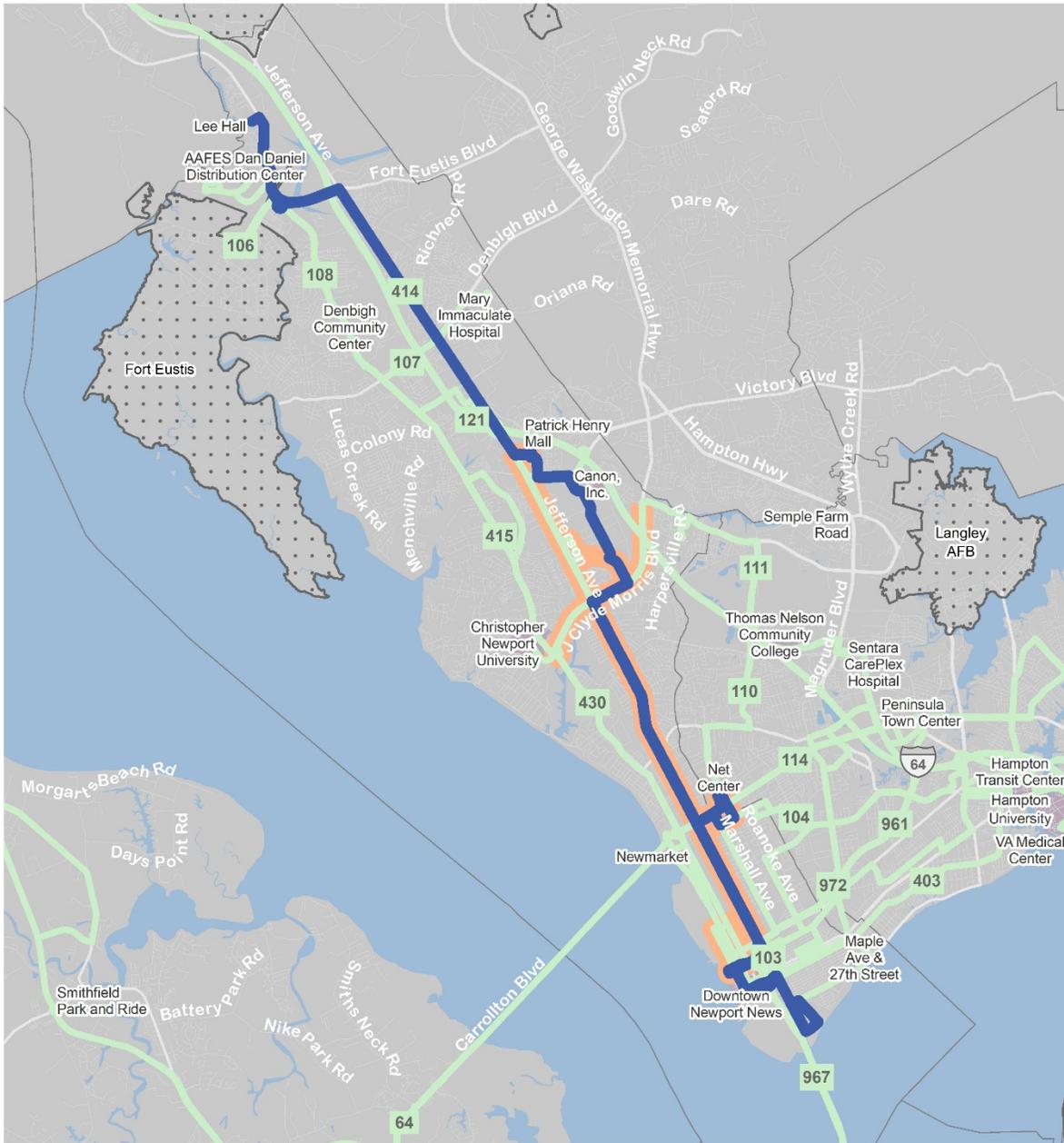
- Route 101 will operate between the Newport News Transfer Center (NNTC) and Hampton Transfer Center (HTC), no longer serving Northgate (the current 3:40 PM trip will be provided by an additional trip on Route 403).
- Weekday service will be offered between 5:00 AM and 1:00 AM. On weekdays, service in the AM and PM peak periods will be every 15 minutes, and in the early, midday, and evening periods will be every 30 minutes.
- On weekends, Sunday service is expanded to match current Saturday levels of service from 5:15 AM to 12:10 AM. On weekends service will operate with 30-minute headways from 6:00 AM to 9:00 PM and 60-minute headways during other times.



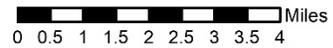
### Justification

- 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 112



## Route 112



### Focus Route

- Planned Alignment
- Existing Alignment

- Planned System
- Light Rail
- - - Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 112

| Service Classification |  |
|------------------------|--|
| Regional Backbone      |  |

| Origin and Destinations & Jurisdictions Served |  |   |
|--|--|---|
|  | Existing                                   | Planned   |
| To / From                                      | Downtown Newport News / Patrick Henry Mall | Ivy Avenue & 6th Street / Downtown Newport News / Patrick Henry Mall / Lee Hall |
| Jurisdictions                                  | Hampton, Newport News                      | Hampton, Newport News   |

| Level of Service |              |                    |                    |
|------------------|--------------|--------------------|--------------------|
| Span             |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   |              | 5:15 AM - 12:35 AM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 5:15 AM - 12:35 AM | 5:15 AM - 12:35 AM |
| <b>Sunday</b>    |              | 6:15 AM - 8:01 PM  | 5:15 AM - 12:35 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | 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                 |
| <b>Saturday</b>  | Base         | 30                 | 15 / 30            |
|                  | Non-Base     | 30                 | 30 / 60            |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | 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

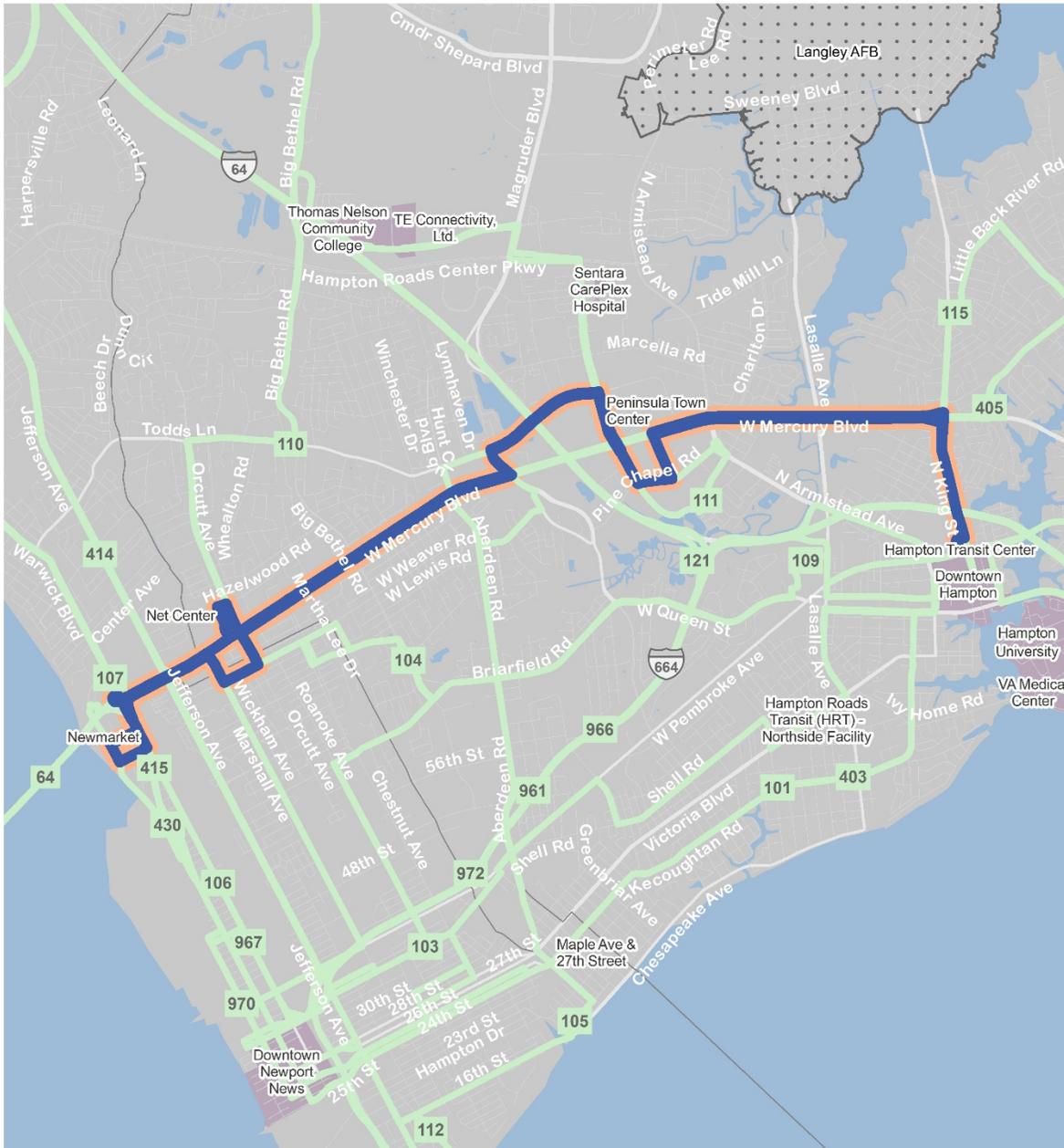
- Route 112 will operate high-frequency service between NNTC and Patrick Henry Mall, following the alignment as designated in the Peninsula BRT corridor study plan. Select trips will continue north to Lee Hall (covering a portion of the eliminated Route 116) and south to 6<sup>th</sup> Street and Ivy Avenue, to cover service removed from Routes 106 and 107. Route 112 will be diverted from Jefferson Avenue between J. Clyde Morris Boulevard and Patrick Henry Mall to service City Center. Service along Jefferson Avenue between J Clyde Morris Boulevard and Patrick Henry Mall will be offered via Routes 108 and 111. Route 108 will also cover service on J Clyde Morris to Riverside.
- On weekdays, Route 112 will offer a small increase in service during the early morning period and an additional half hour of service in the late-night period. Service will operate every 15-minutes between 6<sup>th</sup> and Ivy and Patrick Henry Mall from 6:00 AM to 6:00 PM and every 30-minutes on the extensions to Lee Hall in the north. Before 6:00 AM and between 6:00 PM and 11:00 PM service will operate every 30-minutes between 6<sup>th</sup> and Ivy and Patrick Henry Mall and hourly on the extension. After 11:00 PM, service will operate hourly along the entire alignment.
- The existing Saturday span of service will be maintained; the Sunday span of service will be increased to match Saturday. The frequency of weekend service will be increased to 15-minute headways between 6<sup>th</sup> and Ivy and Patrick Henry, and 30-minutes on the north extension through much of the service day. Morning and evening service will be offered half hourly between 6<sup>th</sup> and Ivy and Patrick Henry and hourly on the extension. Throughout the weekend span of service, Route 112 will operate hourly to Lee Hall in the north. Weekend service before 6:00 AM and after 9:00 PM will operate hourly on the full length of the route.



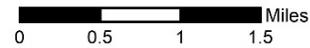
## Justification

- 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. The alignment will be streamlined to match the alignment from the Peninsula BRT corridor study plan, and to make service more direct and improve on-time performance. Route 112 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 114



## Route 114



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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           | Service Target     |
| <b>Weekday</b>   |              | 6:20 AM - 11:38 PM | 5:00 AM - 1:00 AM  |
| <b>Saturday</b>  |              | 6:45 AM - 11:32 PM | 6:00 AM - 12:00 AM |
| <b>Sunday</b>    |              | 6:45 AM - 7:30 PM  | 6:00 AM - 12:00 AM |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| <b>Weekday</b>   | Early        | -                  | 30                 |
|                  | AM Peak      | 30                 | 15                 |
|                  | Midday       | 30                 | 15                 |
|                  | PM Peak      | 30                 | 15                 |
|                  | Evening      | 60                 | 30                 |
|                  | Late Night   | 60                 | 60                 |
| <b>Saturday</b>  | Base         | 30                 | 15                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | 60                 | 60                 |
| <b>Sunday</b>    | Base         | 60                 | 15                 |
|                  | Non-Base     | 60                 | 30                 |
|                  | Early / Late | -                  | 60                 |

## Service Changes

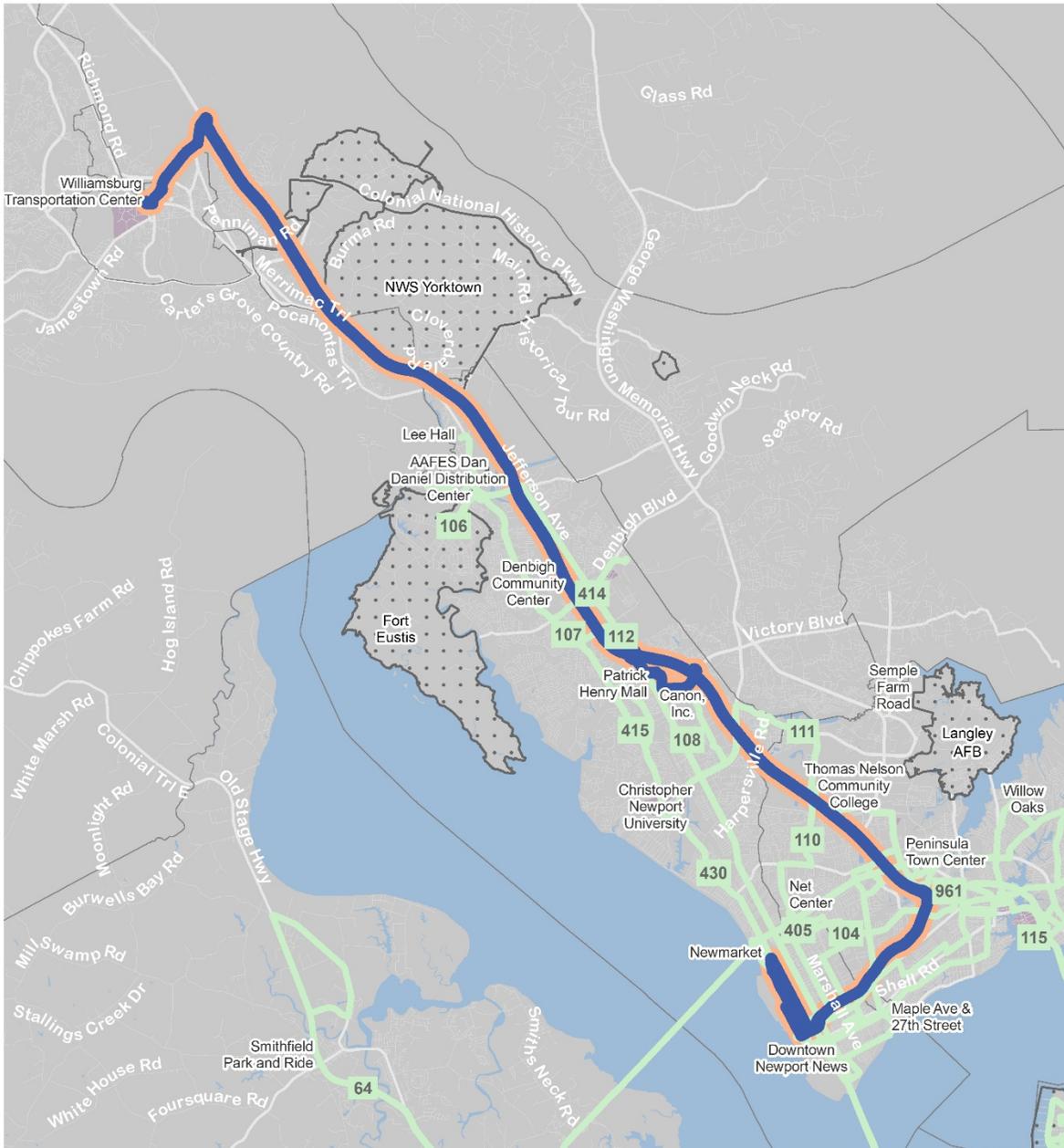
- No change to existing alignment.
- On weekdays, expand the span of service to match the service design guidelines for Regional Backbone, starting at 5:00 AM and ending at 1:00 AM.
- From 6:00 AM to 6:00 PM, the service will operate every 15-minutes. Before 6:00 AM and between 6:00 PM and 11:00 PM, service will operate at half hour intervals. After 11:00 PM, 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 AM and ending at 12:00 AM, 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 121



## Route 121



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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                                | Service Target                          |
| Weekday          |              | 5:30 AM - 7:00 AM;<br>3:40 PM - 5:50 PM | 5:30 AM - 7:00 AM;<br>3:40 PM - 5:50 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| 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

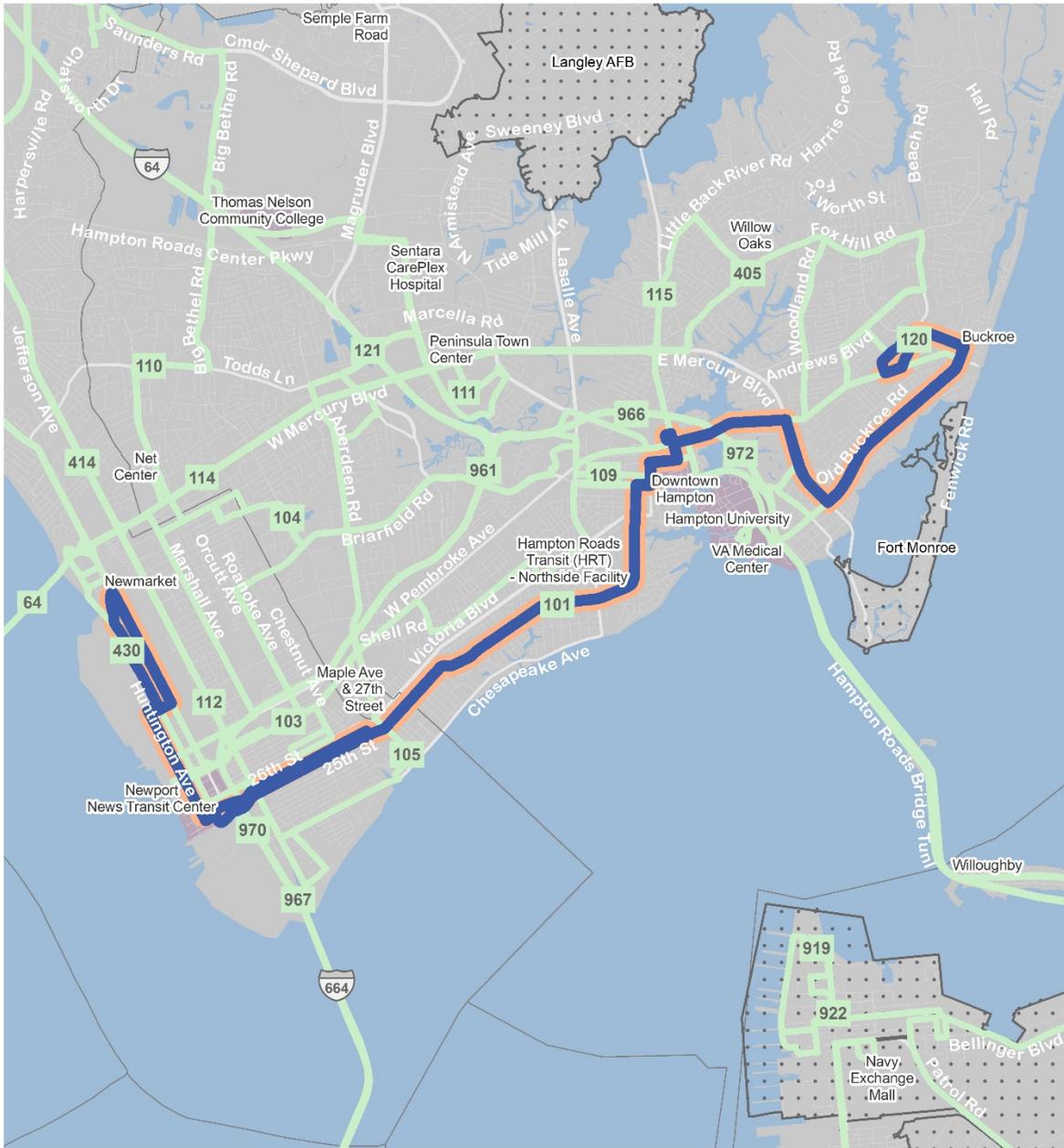
- Route 121 will be re-classified as a MAX route (a limited/express service), as it only has four trips a day.
- No schedule or alignment changes.



### Justification

- Route 121 service will remain unchanged from what is currently offered; however, the route will now be classified as a MAX route.

## Route 403



## Route 403



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 403

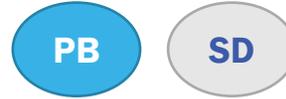
| Service Classification |  |
|------------------------|--|
| Limited/Express        |  |

| 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          | Service Target                          |
| Weekday          |              | 5:28 AM - 6:18 AM | 5:28 AM - 6:18 AM;<br>3:40 PM - 4:15 PM |
| Saturday         |              | -                 | -                                       |
| Sunday           |              | -                 | -                                       |
| Headway          |              |                   |   |
|                  |              | Existing          | Service Target                          |
| 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

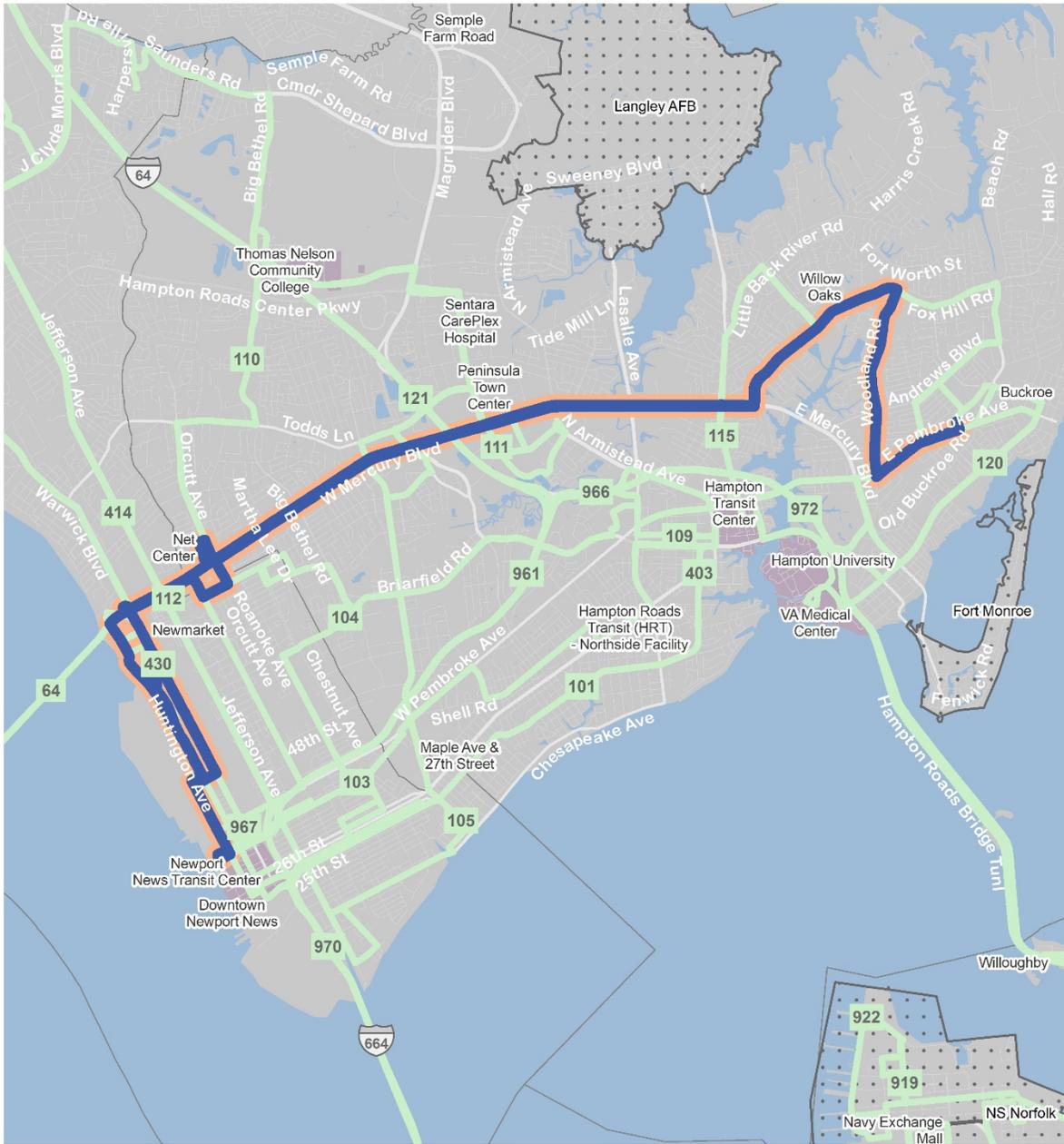
- One trip will be added to Route 403 in the PM peak period at 3:40 PM. The 3:40 PM trip is a trip that is being transferred from Route 101.



### Justification

- An additional trip will be added to Route 403 will replace service removed from Northgate currently being provided by Route 101. This service change will help bring the Route 101 in line with service design standards.

## Route 405



## Route 405



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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                                | Service Target                          |
| Weekday          |              | 5:50 AM - 6:31 AM;<br>2:40 PM - 3:38 PM | 4:50 AM - 6:31 AM;<br>2:40 PM - 4:38 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| 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

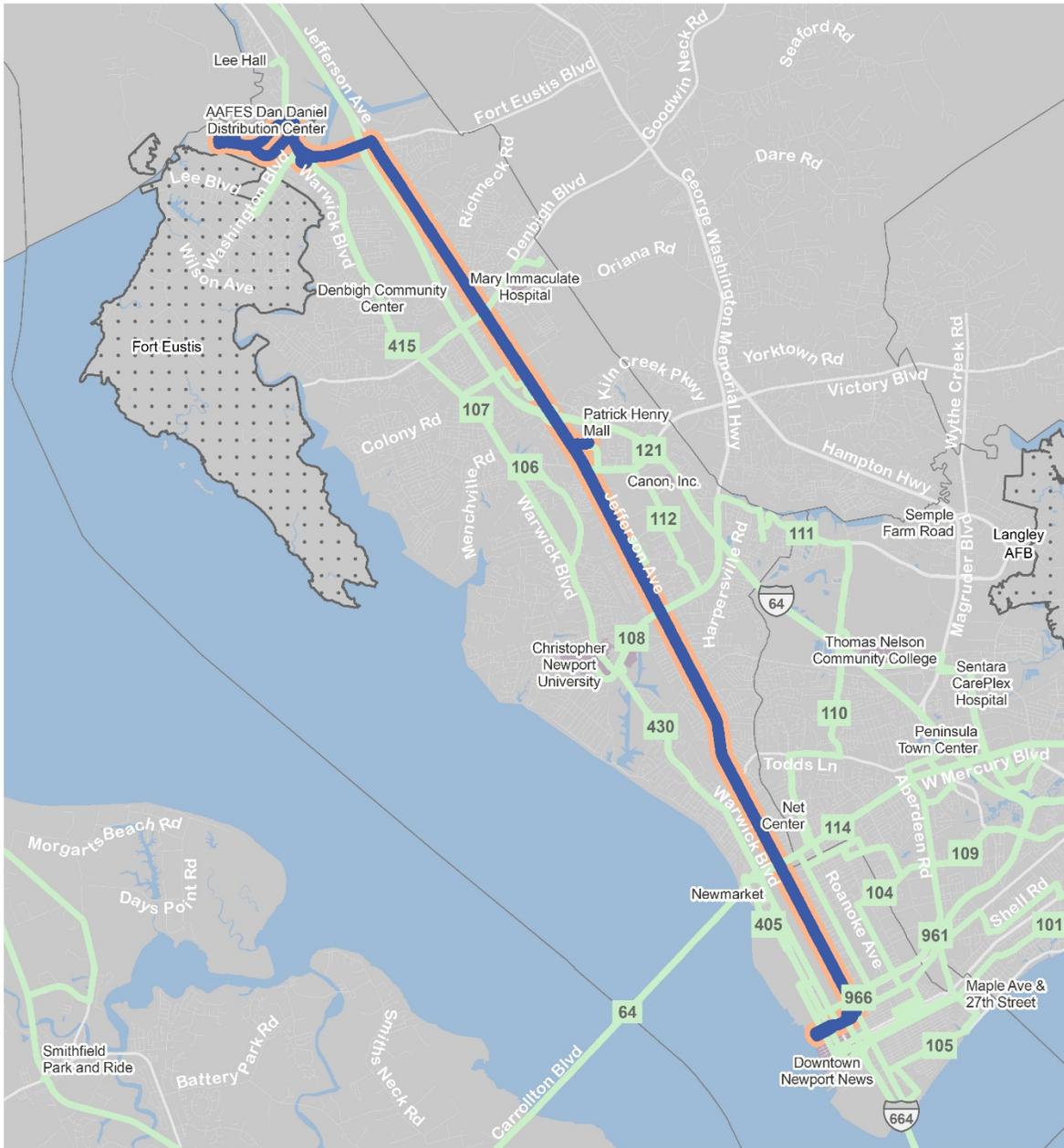
- Two trips will be added to Route 405: one in the early period at 4:50 AM and one additional trip in the PM peak period at 3:40 PM.



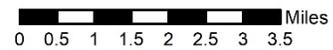
### Justification

- Additional trips will be added to Route 405 to meet shift-specific demand.

## Route 414



## Route 414



### Focus Route

-  Planned Alignment
-  Existing Alignment
-  Planned System
-  Light Rail
-  Ferry
-  Military Bases
-  City Boundary
-  Activity Centers



## 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                                | Service Target                          |
| Weekday          |              | 5:20 AM - 7:49 AM;<br>4:04 PM - 6:33 PM | 5:20 AM - 7:49 AM;<br>4:04 PM - 6:33 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| Weekday          | Early        | 1 Trip                                  | 1 Trip                                  |
|                  | AM Peak      | 1 Trip                                  | 1 Trip                                  |
|                  | Midday       | -                                       | -                                       |
|                  | PM Peak      | 3 Trips                                 | 3 Trips                                 |
|                  | Evening      | -                                       | -                                       |
|                  | Late Night   | -                                       | -                                       |
| Saturday         | Base         | -                                       | -                                       |
|                  | Non-Base     | -                                       | -                                       |
|                  | Early / Late | -                                       | -                                       |
| Sunday           | Base         | -                                       | -                                       |
|                  | Non-Base     | -                                       | -                                       |
|                  | Early / Late | -                                       | -                                       |

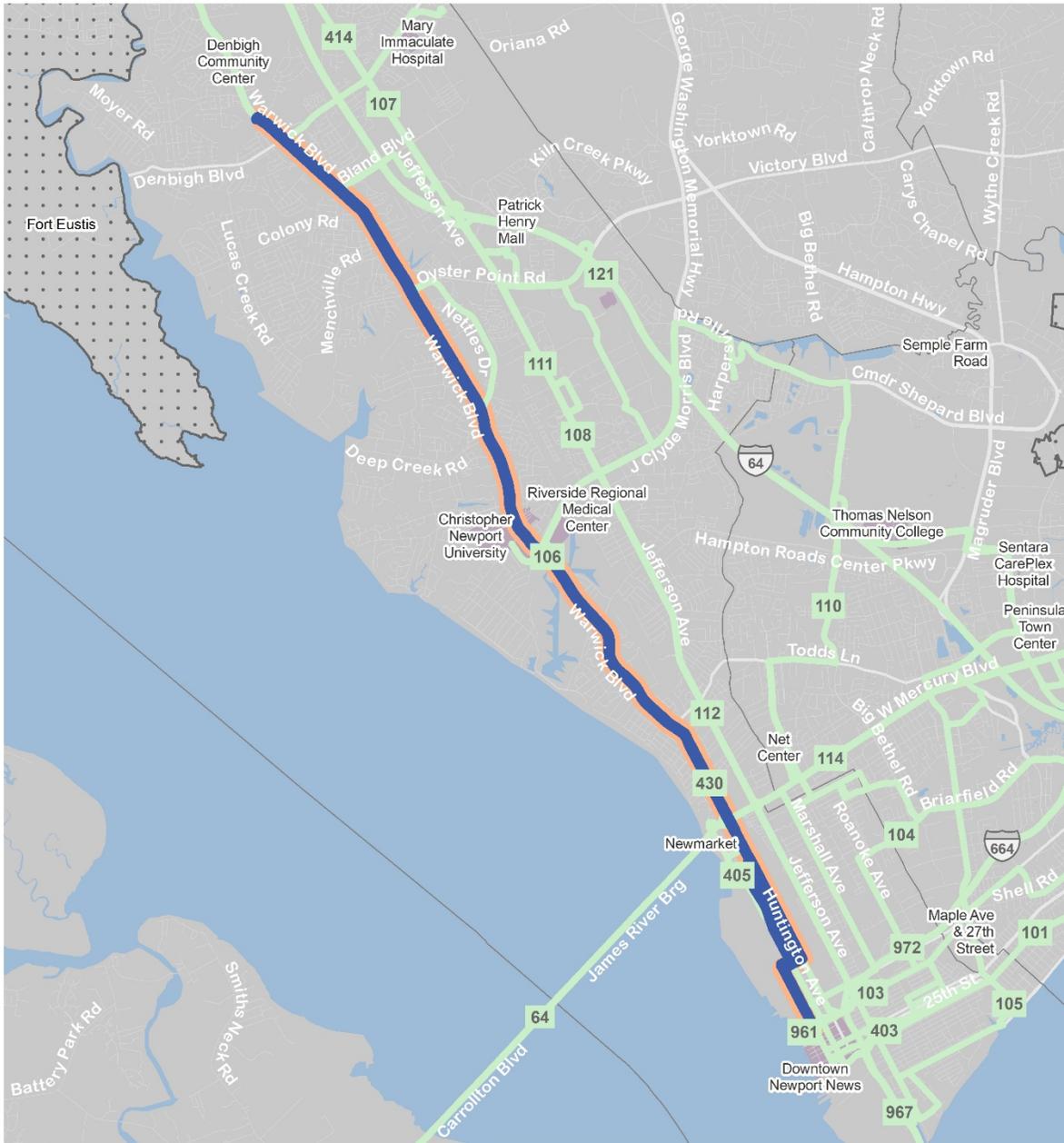
### Service Changes

- No alignment or level of service changes are proposed.

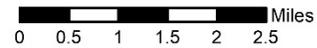
### Justification

- Route 414 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

## Route 415



## Route 415



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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          | Service Target                          |
| Weekday          |              | 3:45 PM - 4:27 PM | 6:00 AM - 6:42 AM;<br>3:45 PM - 4:27 PM |
| Saturday         |              | -                 | -                                       |
| Sunday           |              | -                 | -                                       |
| Headway          |              |                   |   |
|                  |              | Existing          | Service Target                          |
| Weekday          | Early        | -                 | -                                       |
|                  | AM Peak      | -                 | 1 Trip                                  |
|                  | Midday       | -                 | -                                       |
|                  | PM Peak      | 1 Trip            | 1 Trip                                  |
|                  | Evening      | -                 | -                                       |
|                  | Late Night   | -                 | -                                       |
| Saturday         | Base         | -                 | -                                       |
|                  | Non-Base     | -                 | -                                       |
|                  | Early / Late | -                 | -                                       |
| Sunday           | Base         | -                 | -                                       |
|                  | Non-Base     | -                 | -                                       |
|                  | Early / Late | -                 | -                                       |

### Service Changes

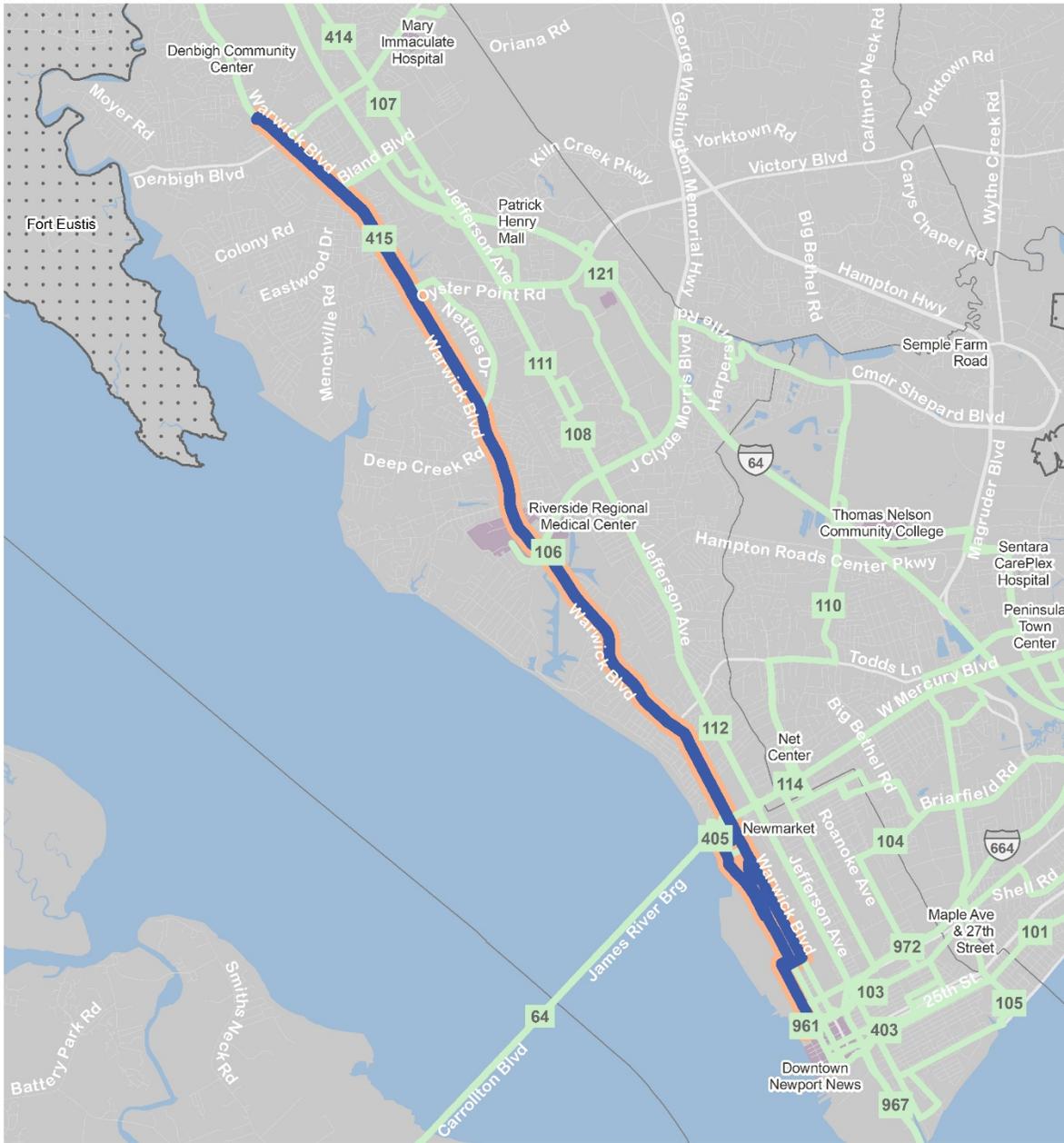
- One trip will be added to Route 415 at 6:00 AM.



### Justification

- The additional trip will be added to meet shift-specific demand.

## Route 430



## Route 430



### Focus Route

- █ Planned Alignment
- █ Existing Alignment

- █ Planned System
- █ Light Rail
- Ferry

- Military Bases
- City Boundary
- Activity Centers



## Route 430

| Service Classification |  |
|------------------------|--|
| Limited/Express        |  |

| Origin and Destinations & Jurisdictions Served |                |                |
|--|----------------|----------------|
|  | Existing       | Planned        |
| <b>To / From</b>                               | Denbigh Fringe | Denbigh Fringe |
| <b>Jurisdictions</b>                           | Newport News   | Newport News   |

| Level of Service |   |          |   |
|------------------|---|----------|---|
| Span             |   |          |   |
|                  |   | Existing | Service Target                          |
| <b>Weekday</b>   | 5:35 AM - 6:30 AM;<br>3:45 PM - 4:29 PM |          | 5:00 AM - 6:30 AM;<br>3:40 PM - 4:29 PM |
| <b>Saturday</b>  | -                                       |          | -                                       |
| <b>Sunday</b>    | -                                       |          | -                                       |
| Headway          |   |          |   |
|                  |   | Existing | Service Target                          |
| <b>Weekday</b>   | Early                                   | 2 Trips  | 3 Trips                                 |
|                  | AM Peak                                 | -        | -                                       |
|                  | Midday                                  | -        | -                                       |
|                  | PM Peak                                 | 1 Trip   | 2 Trips                                 |
|                  | Evening                                 | -        | -                                       |
|                  | Late Night                              | -        | -                                       |
| <b>Saturday</b>  | Base                                    | -        | -                                       |
|                  | Non-Base                                | -        | -                                       |
|                  | Early / Late                            | -        | -                                       |
| <b>Sunday</b>    | Base                                    | -        | -                                       |
|                  | Non-Base                                | -        | -                                       |
|                  | Early / Late                            | -        | -                                       |

### Service Changes

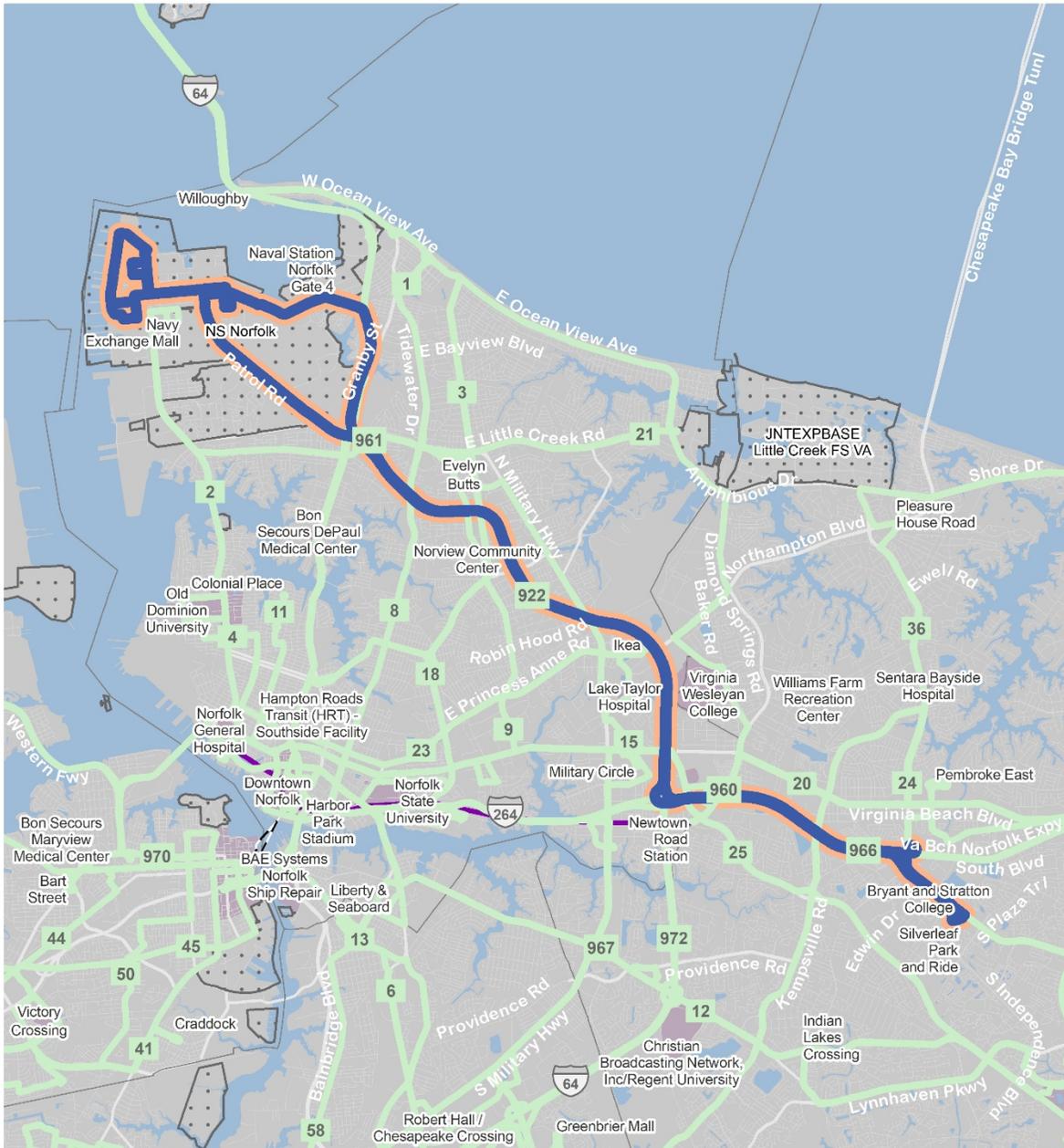
- One trip will be added to Route 430 at 5:00 AM. Another will be added at 3:40 PM.



### Justification

- The additional trips will be added to meet shift-specific demand.

## Route 919



## Route 919



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## 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                                | Service Target                          |
| Weekday          |              | 5:10 AM - 7:26 AM;<br>2:54 PM - 5:03 PM | 5:10 AM - 7:26 AM;<br>2:54 PM - 5:03 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| 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 | -                                       | -                                       |

### Service Changes

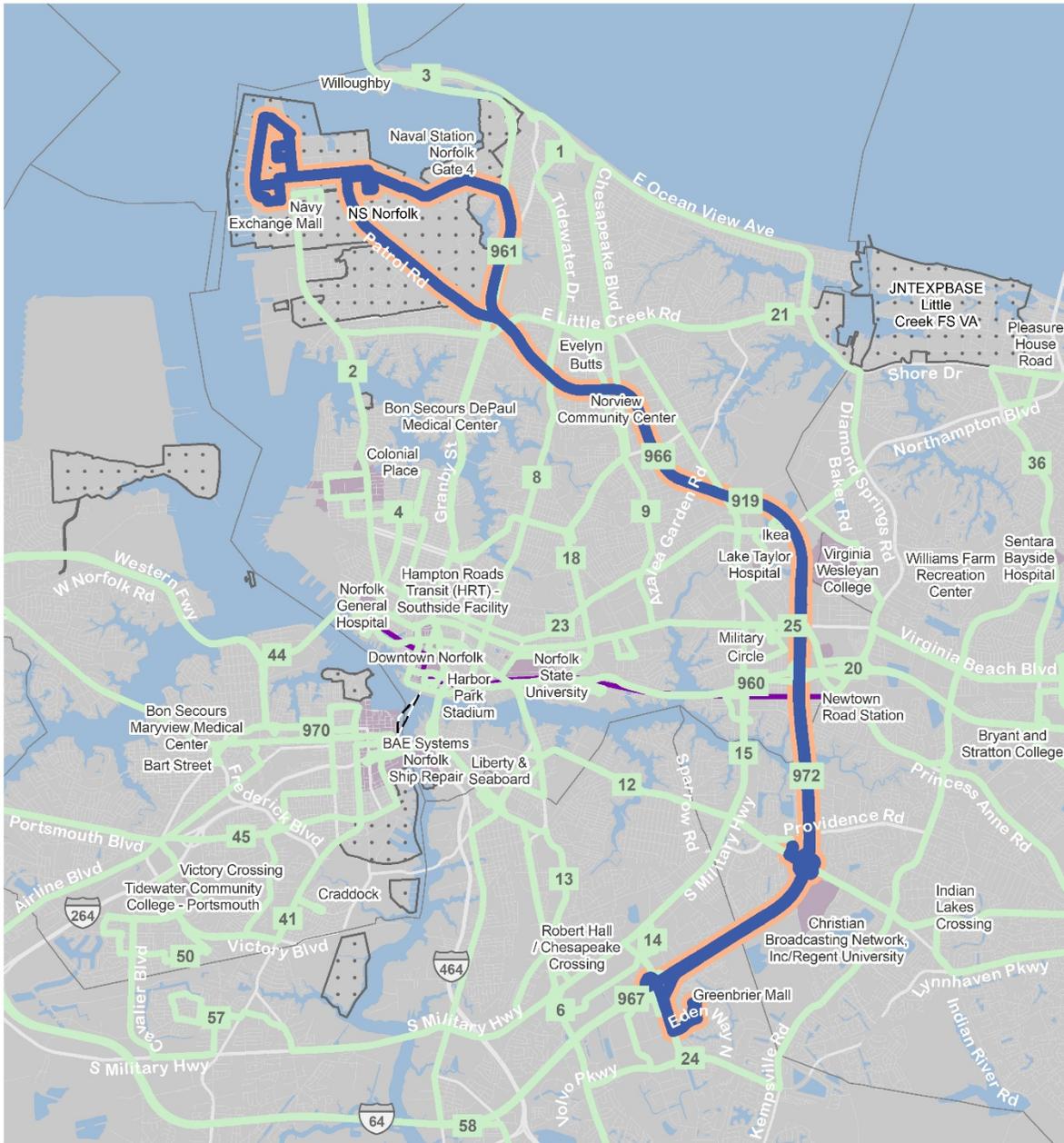
- The 3:18 PM trip on Route 919 will be eliminated.



### Justification

- Few passengers utilize the 3:18 PM trip on the current Route 919 service. The resources from this trip will be used more effectively elsewhere in the system.

## Route 922



## Route 922



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 922

| Service Classification |
|------------------------|
| Limited/Express        |

| Origin and Destinations & Jurisdictions Served |   |   |
|--|---|---|
|  | Existing  | Planned   |
| To / From                                      | Greenbrier Mall Park & Ride / Naval Station<br>Norfolk Gate 4 | Greenbrier Mall Park & Ride / Naval Station<br>Norfolk Gate 4 |
| Jurisdictions                                  | Chesapeake,<br>Norfolk, Virginia Beach                        | Chesapeake,<br>Norfolk, Virginia Beach                        |

| Level of Service |              |   |   |
|------------------|--------------|---|---|
| Span             |              |   |   |
|                  |              | Existing                                | Service Target                          |
| Weekday          |              | 5:00 AM - 7:13 AM;<br>2:55 PM - 4:42 PM | 5:00 AM - 6:52 AM;<br>2:55 PM - 4:23 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| 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 | -                                       | -                                       |

### Service Changes

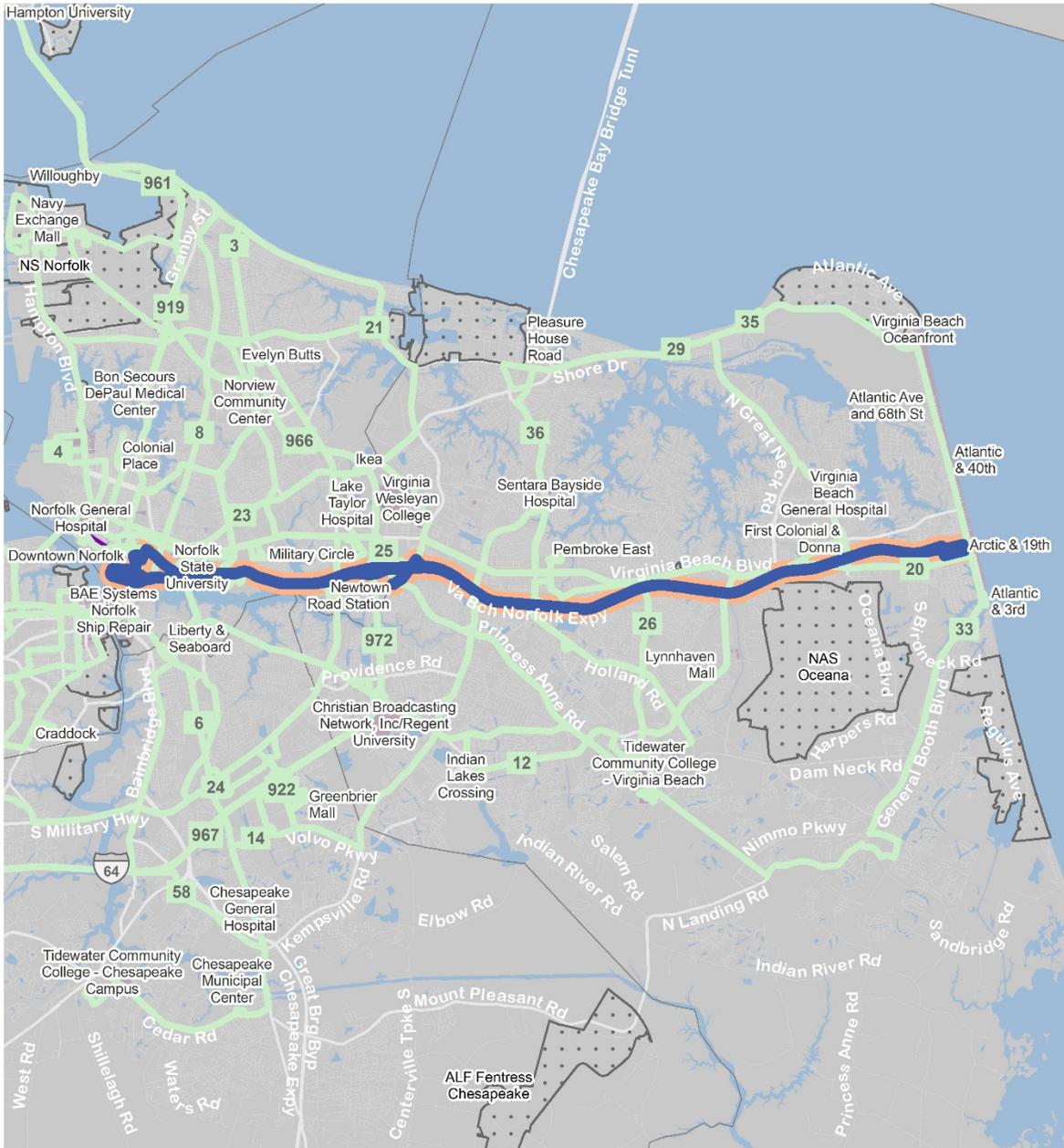
- The 6:10 AM and 3:44 PM trips on Route 922 will be eliminated.



### Justification

- Few passengers utilize the 6:10 AM and 3:44 PM trips on the current service. The resources from these trips will be used more effectively elsewhere in the system.

## Route 960



## Route 960



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## Route 960

| Service Classification |  |
|------------------------|--|
| Limited/Express        |  |

| Origin and Destinations & Jurisdictions Served |                           |                           |
|--|---------------------------|---------------------------|
|  | Existing                  | Planned                   |
| <b>To / From</b>                               | Norfolk to Virginia Beach | Norfolk to Virginia Beach |
| <b>Jurisdictions</b>                           | Norfolk, Virginia Beach   | Norfolk, Virginia Beach   |

| Level of Service |                   |          |   |
|------------------|-------------------|----------|---|
| Span             |                   |          |   |
|                  |                   | Existing | Service Target                          |
| <b>Weekday</b>   | 5:35 AM - 8:27 PM |          | 6:00 AM - 9:00 AM;<br>3:00 PM - 7:35 PM |
| <b>Saturday</b>  | 6:30 AM - 8:19 PM |          | -                                       |
| <b>Sunday</b>    | 7:50 AM - 8:44 PM |          | -                                       |
| Headway          |                   |          |   |
|                  |                   | Existing | Service Target                          |
| <b>Weekday</b>   | Early             | 60       | -                                       |
|                  | AM Peak           | 60       | 3 Trips                                 |
|                  | Midday            | 60       | -                                       |
|                  | PM Peak           | 60       | 3 Trips                                 |
|                  | Evening           | 60       | -                                       |
|                  | Late Night        | -        | -                                       |
| <b>Saturday</b>  | Base              | 60       | -                                       |
|                  | Non-Base          | 60       | -                                       |
|                  | Early / Late      | -        | -                                       |
| <b>Sunday</b>    | Base              | 60       | -                                       |
|                  | Non-Base          | 60       | -                                       |
|                  | Early / Late      | -        | -                                       |

### Service Changes

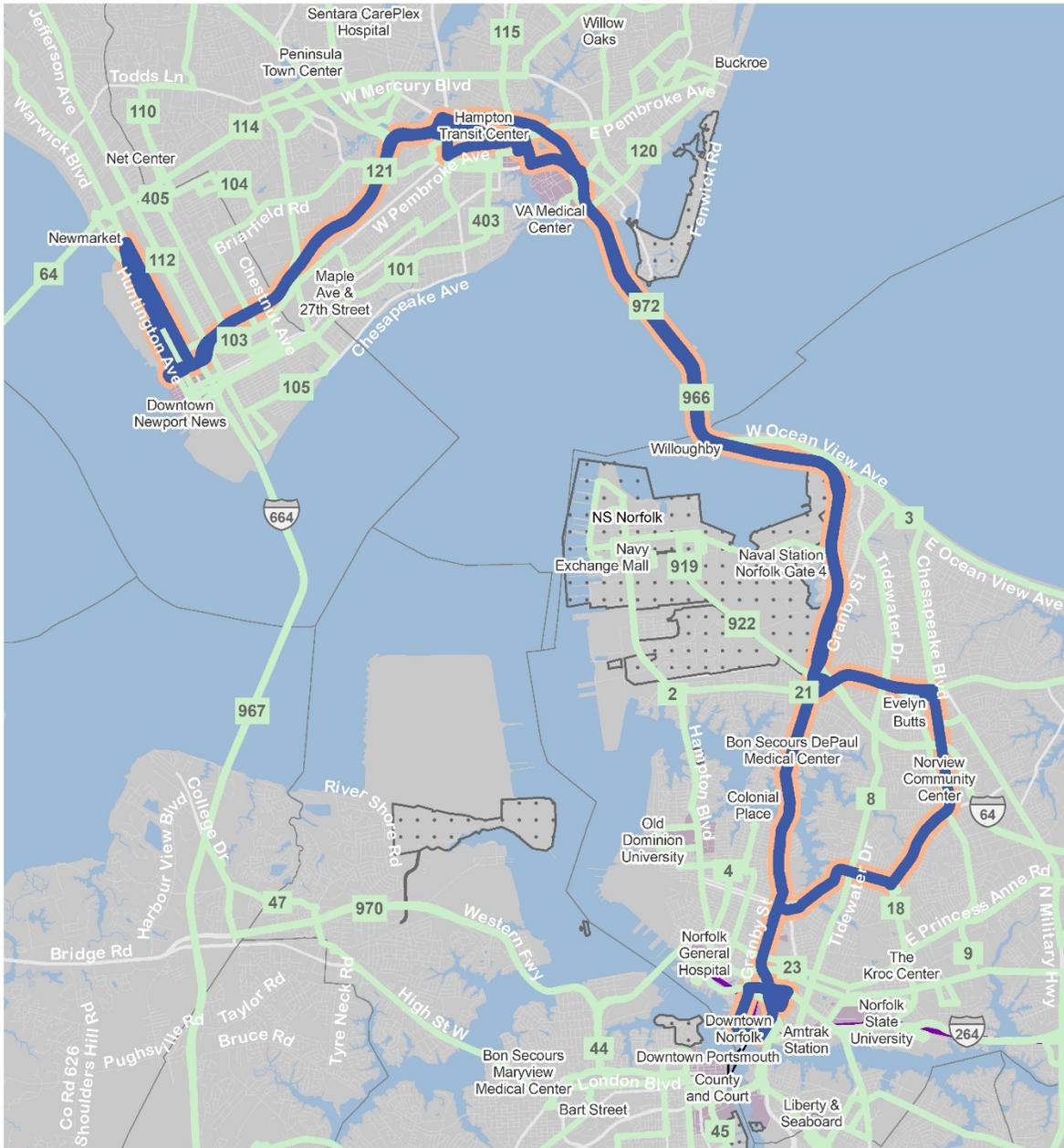
- Six trips in each direction per weekday will be maintained on Route 960: three AM peak and three PM peak. All other weekday trips will be eliminated.
- All weekend service will be eliminated.



### Justification

- Service will be reduced on Route 960 as a result of the Route 20 service being increased, providing service between the same key points, and because Route 960 has low performance metrics.

## Route 961



## Route 961



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## 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           | Service Target     |
| Weekday          |              | 4:55 AM - 11:12 PM | 4:55 AM - 11:12 PM |
| Saturday         |              | 4:58 AM - 10:57 PM | 4:58 AM - 10:57 PM |
| Sunday           |              | 7:00 AM - 8:58 PM  | 7:00 AM - 8:58 PM  |
| Headway          |              |                    |                    |
|                  |              | Existing           | Service Target     |
| 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 | -                  | -                  |

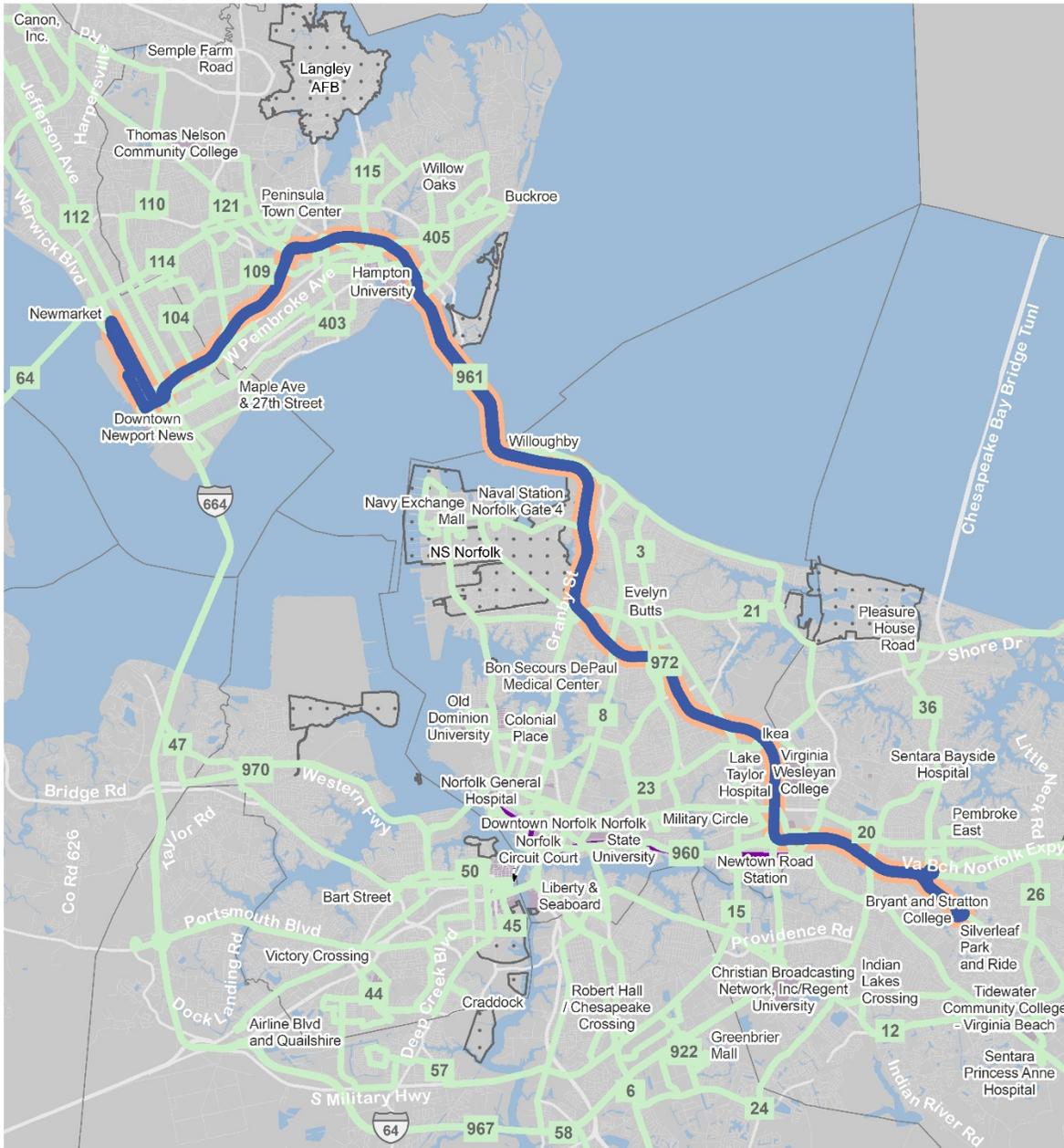
### Service Changes

- No alignment or level of service changes are proposed.

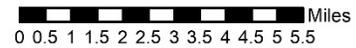
### Justification

- Route 961 fulfills a need in terms of getting employees to work throughout the day and will remain unchanged.

## Route 966



## Route 966



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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 | Service Target                          |
| Weekday          | 5:20 AM - 6:31 AM;<br>3:40 PM - 5:03 PM |          | 5:20 AM – 7:00 AM;<br>3:40 PM - 5:45 PM |
| Saturday         | -                                       |          | -                                       |
| Sunday           | -                                       |          | -                                       |
| Headway          |   |          |   |
|                  |   | Existing | Service Target                          |
| 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

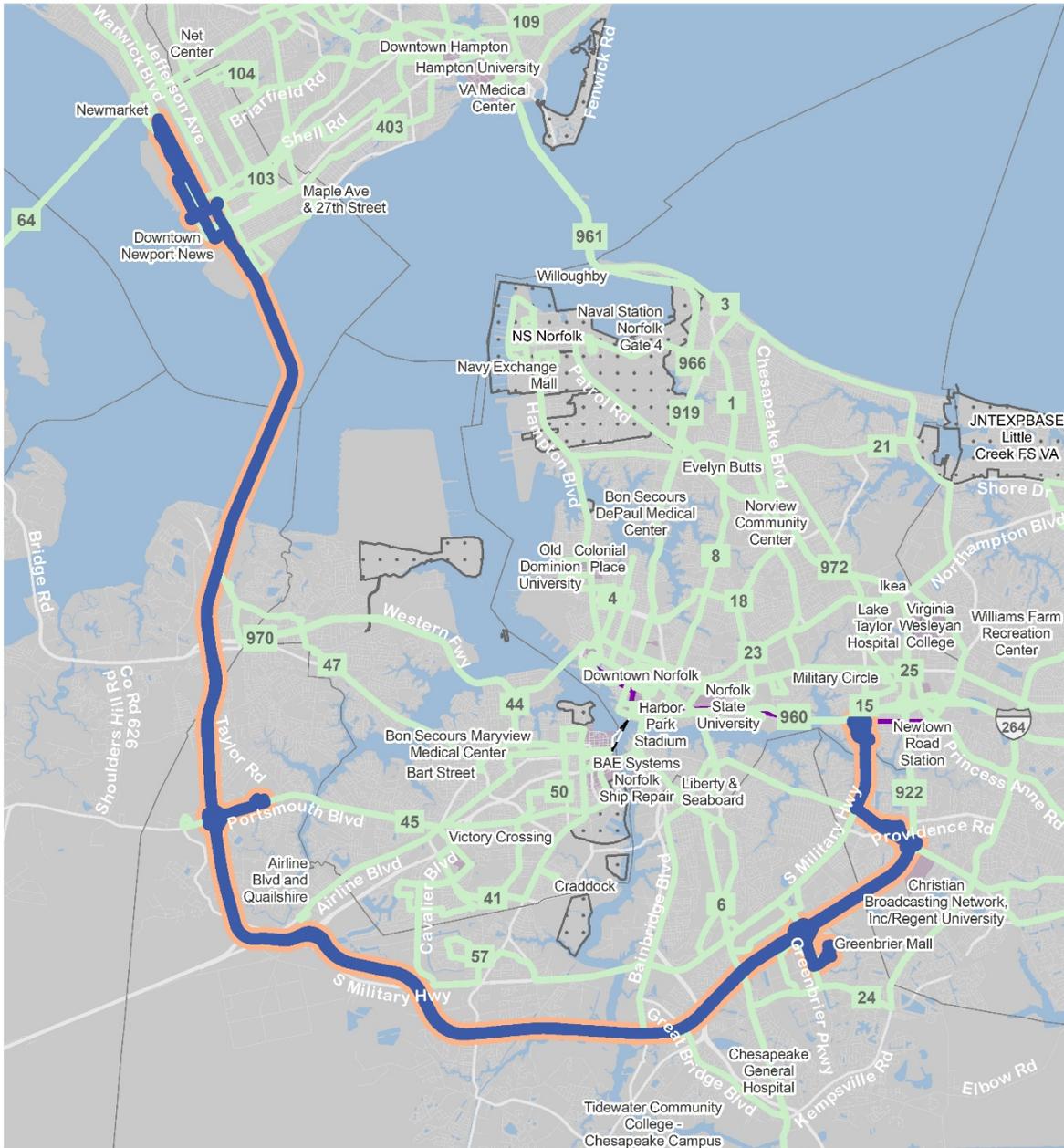
- One AM peak trip and one PM peak trip will be added to Route 966.



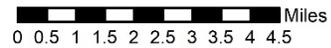
### Justification

- The additional trips will be added to meet shift-specific demand.

# Route 967



## Route 967



### Focus Route

- Planned Alignment
- Existing Alignment
- Planned System
- Light Rail
- Ferry
- Military Bases
- City Boundary
- Activity Centers



## Route 967

| Service Classification |
|------------------------|
| Limited/Express        |

| Origin and Destinations & Jurisdictions Served |   |   |
|--|---|---|
|  | Existing  | Planned   |
| To / From                                      | Virginia Beach /<br>Chesapeake /<br>Newport News        | Virginia Beach /<br>Chesapeake /<br>Newport News        |
| Jurisdictions                                  | Chesapeake,<br>Newport News, Norfolk,<br>Virginia Beach | Chesapeake,<br>Newport News,<br>Norfolk, Virginia Beach |

| Level of Service |   |   |         |
|------------------|---|---|---------|
| Span             |   |   |         |
|                  | Existing                                | Service Target                          |         |
| Weekday          | 4:25 AM - 7:14 AM;<br>3:00 PM - 6:24 PM | 4:25 AM - 7:14 AM;<br>3:00 PM - 6:24 PM |         |
| Saturday         | -                                       | -                                       |         |
| Sunday           | -                                       | -                                       |         |
| Headway          |   |   |         |
|                  | Existing                                | Service Target                          |         |
| Weekday          | Early                                   | 5 Trips                                 | 5 Trips |
|                  | AM Peak                                 | 1 Trip                                  | 1 Trip  |
|                  | Midday                                  | -                                       | -       |
|                  | PM Peak                                 | 6 Trips                                 | 6 Trips |
|                  | Evening                                 | -                                       | -       |
|                  | Late Night                              | -                                       | -       |
| Saturday         | Base                                    | -                                       | -       |
|                  | Non-Base                                | -                                       | -       |
|                  | Early /<br>Late                         | -                                       | -       |
| Sunday           | Base                                    | -                                       | -       |
|                  | Non-Base                                | -                                       | -       |
|                  | Early /<br>Late                         | -                                       | -       |

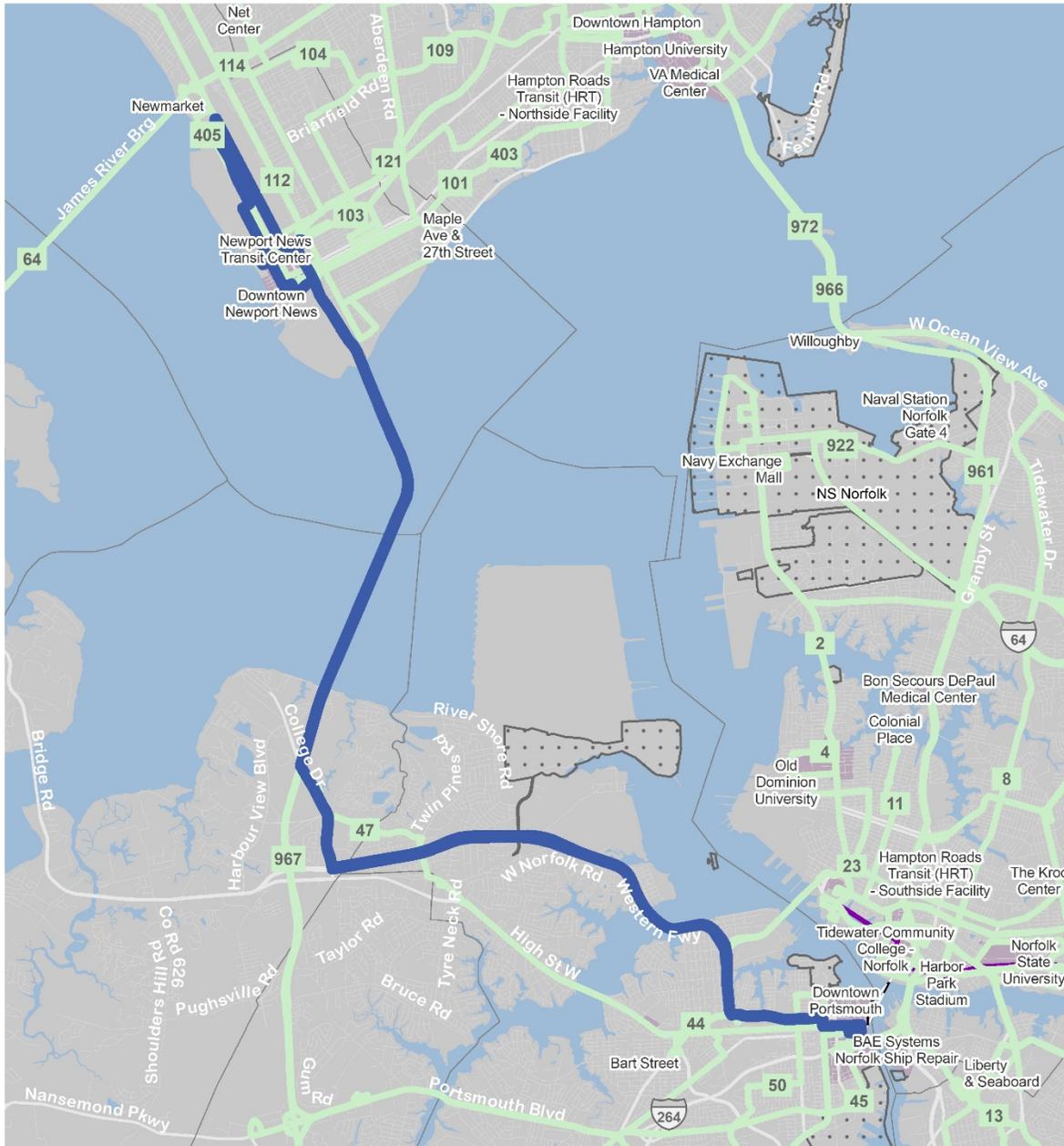
### Service Changes

- No alignment or level of service changes are proposed.

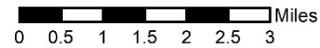
### Justification

- Route 967 fulfills a need in terms of getting employees to work at specific shift times and will remain unchanged.

## Route 970



## Route 970



### Focus Route

- █ Planned Alignment
- █ Existing Alignment

- █ Planned System
- █ Light Rail
- Ferry

- Military Bases
- City Boundary
- Activity Centers



## Route 970

| Service Classification |  |
|------------------------|--|
| Limited/Express        |  |

| Origin and Destinations & Jurisdictions Served |          |                              |
|--|----------|------------------------------|
|  | Existing | Planned                      |
| To / From                                      | -        | Newport News /<br>Portsmouth |
| Jurisdictions                                  | -        | Newport News,<br>Portsmouth  |

| Level of Service |                 |   |
|------------------|-----------------|---|
| Span             |                 |   |
|                  | Existing        | Service Target                          |
| Weekday          | -               | 6:00 AM - 8:30 AM;<br>3:00 PM - 5:40 PM |
| Saturday         | -               | -                                       |
| Sunday           | -               | -                                       |
| Headway          |                 |   |
|                  | Existing        | Service Target                          |
| Weekday          | Early           | -                                       |
|                  | AM Peak         | -                                       |
|                  | Middy           | -                                       |
|                  | PM Peak         | -                                       |
|                  | Evening         | -                                       |
|                  | Late Night      | -                                       |
| Saturday         | Base            | -                                       |
|                  | Non-Base        | -                                       |
|                  | Early /<br>Late | -                                       |
| Sunday           | Base            | -                                       |
|                  | Non-Base        | -                                       |
|                  | Early /<br>Late | -                                       |

## Service Changes

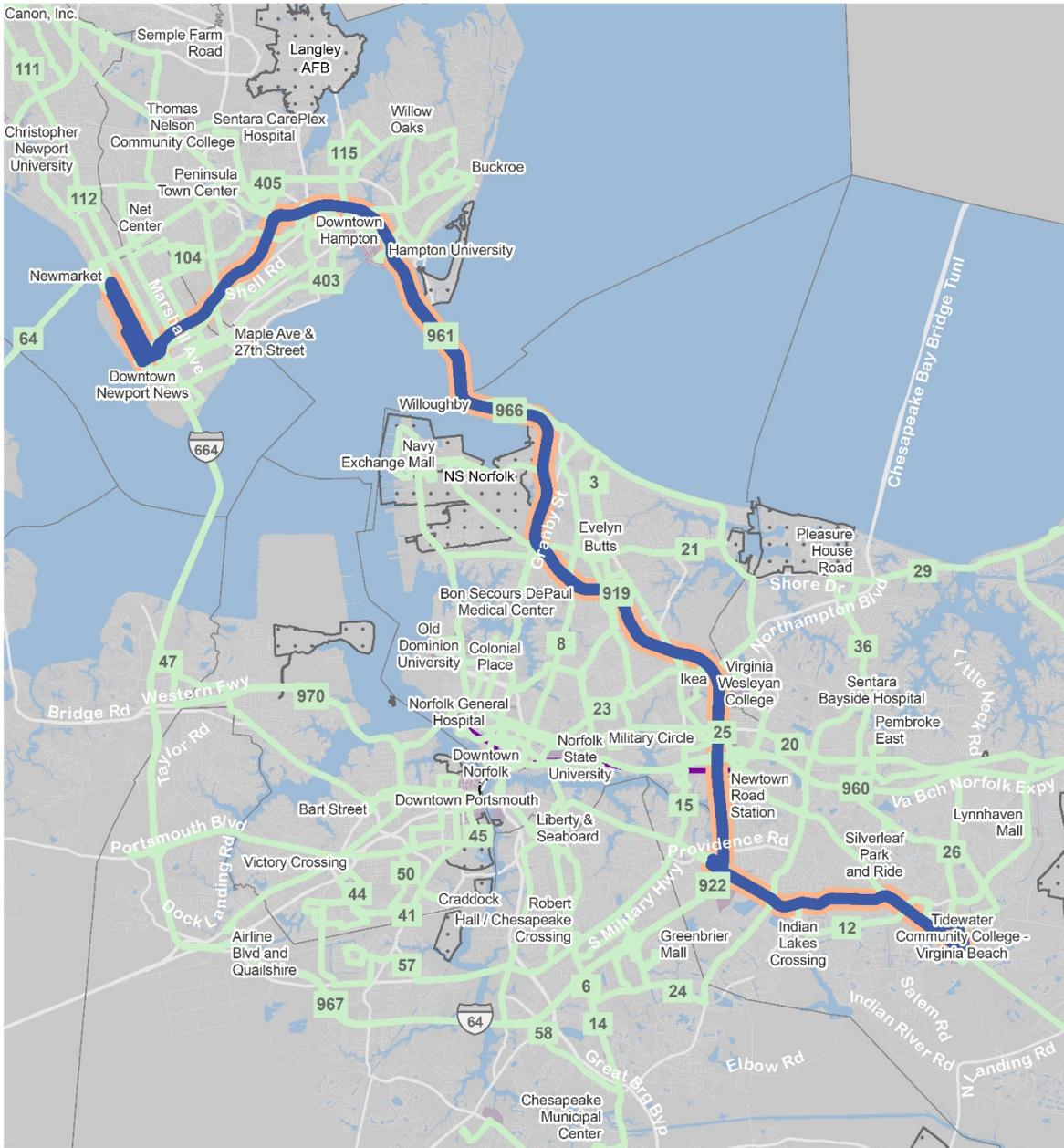
- This new route would provide express service between Downtown Portsmouth and Newport News. It would operate four trips in the morning and afternoon peak periods, operating in both directions.
- Route 970 would begin at the County Street & Court Street Hub, traveling west on County Street, turn right onto Court Street, left onto High Street, right onto Effingham Street, and left on London Street. Continue straight onto London Boulevard, merge onto SR 164, then merge onto I-664. Exit onto 35<sup>th</sup> Street, take a right onto Warwick Boulevard, turn left onto Huntington Avenue, and serve the Newport News Shipbuilding.
- The return trip would begin at Newport News Shipbuilding, continuing straight on Huntington Avenue, right onto 50<sup>th</sup> Street, left onto Washington Avenue, right onto 35<sup>th</sup> Street, left on West Avenue, and left onto 34<sup>th</sup> Street, serving the Newport News Transit Center, continuing east on 34<sup>th</sup> Street, followed by a right onto Washington Avenue, left on 25<sup>th</sup> Street, right onto Huntington Avenue, left onto US-60, and right onto I-664. The route would then exit onto SR 164, and then quickly exit onto London Boulevard eastbound, then turn right onto Effingham Street, left onto High Street, right onto Crawford Street, and right onto County Street to terminate at the County Street & Court Street Hub.
- Route 970 is one option for future expansion of MAX service. In the next annual update, that route plus others will be explored, including service connecting Chesapeake to Norfolk Naval Shipyard (Portsmouth).



## Justification

- Route 970 would serve a need for a new peak hour service between Downtown Portsmouth and Newport News Transit Center and Shipyard. This route would be the final missing link in a proposed comprehensive MAX service across the region.

## Route 972



## Route 972



### Focus Route

-  Planned Alignment
-  Existing Alignment

-  Planned System
-  Light Rail
-  Ferry

-  Military Bases
-  City Boundary
-  Activity Centers



## 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                                | Service Target                          |
| Weekday          |              | 5:15 AM - 6:17 AM;<br>3:40 PM - 4:58 PM | 5:15 AM - 7:30 AM;<br>3:40 PM - 5:30 PM |
| Saturday         |              | -                                       | -                                       |
| Sunday           |              | -                                       | -                                       |
| Headway          |              |   |   |
|                  |              | Existing                                | Service Target                          |
| 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 trip and one PM peak trip will be added to Route 972.



### Justification

- The additional trips will be added to meet shift-specific demand.

## 6.7. Phasing and Implementation

As discussed above, Regional Backbone and Limited/Express routes will provide access to high-quality transit throughout the region. This section outlines phasing and implementation of the planned improvements under the Program.

### 6.7.1. Phasing

Several factors influence phasing and implementation of Program services and improvements:

- Demonstrated fit of Program investments to the key factors and requirements outlined in legislation;
- Schedule of availability and amounts of Hampton Roads Regional Transit Fund moneys and other requisite funding;
- Implementation feasibility based on procurement schedules, staffing, and other operational action plans for successful marketing and roll-out of service improvements.

Purchasing new buses to support the Regional Backbone is a critical early procurement action. The average time span from the placement of a new bus order to the delivery of the bus and getting the bus ready to deploy into revenue service is between 18-22 months. Other early procurement actions include acquiring new customer amenities and technology upgrades. For operating the Program of enhanced service frequencies on the 13 routes in the Regional Backbone network, HRT will need to hire and train 290 additional operators. HRT will implement the Program service improvements in phases. This will allow for time to hire and train new operators on a continual basis and execute other action plans for successful marketing and roll-out of service improvements.

### 6.7.2. Service Grouping

The phased implementation of the Program is designed around three groups of regional transit service improvement. Group A, Group B, and Group C each consist of Regional Backbone and/or Limited/Express routes and also have associated Local Priority and Coverage routes that should be implemented concurrently in cases where there are changes in route alignment.<sup>9</sup> While the timeframe for the start of revenue service is distinct for each group, there are underlying activities that are ongoing concurrently for all three groups. These include bus purchases, shelter purchase and installation, upgrades to technology infrastructure, installation of signage, real-time passenger information displays at transit centers, and completion of needs assessments, design, and engineering for new transit and passenger facilities.

The three groupings of services for implementation are shown in **Figure 6-7** and **Figure 6-8**. The routes included in each group are listed in **Table 6-14**.

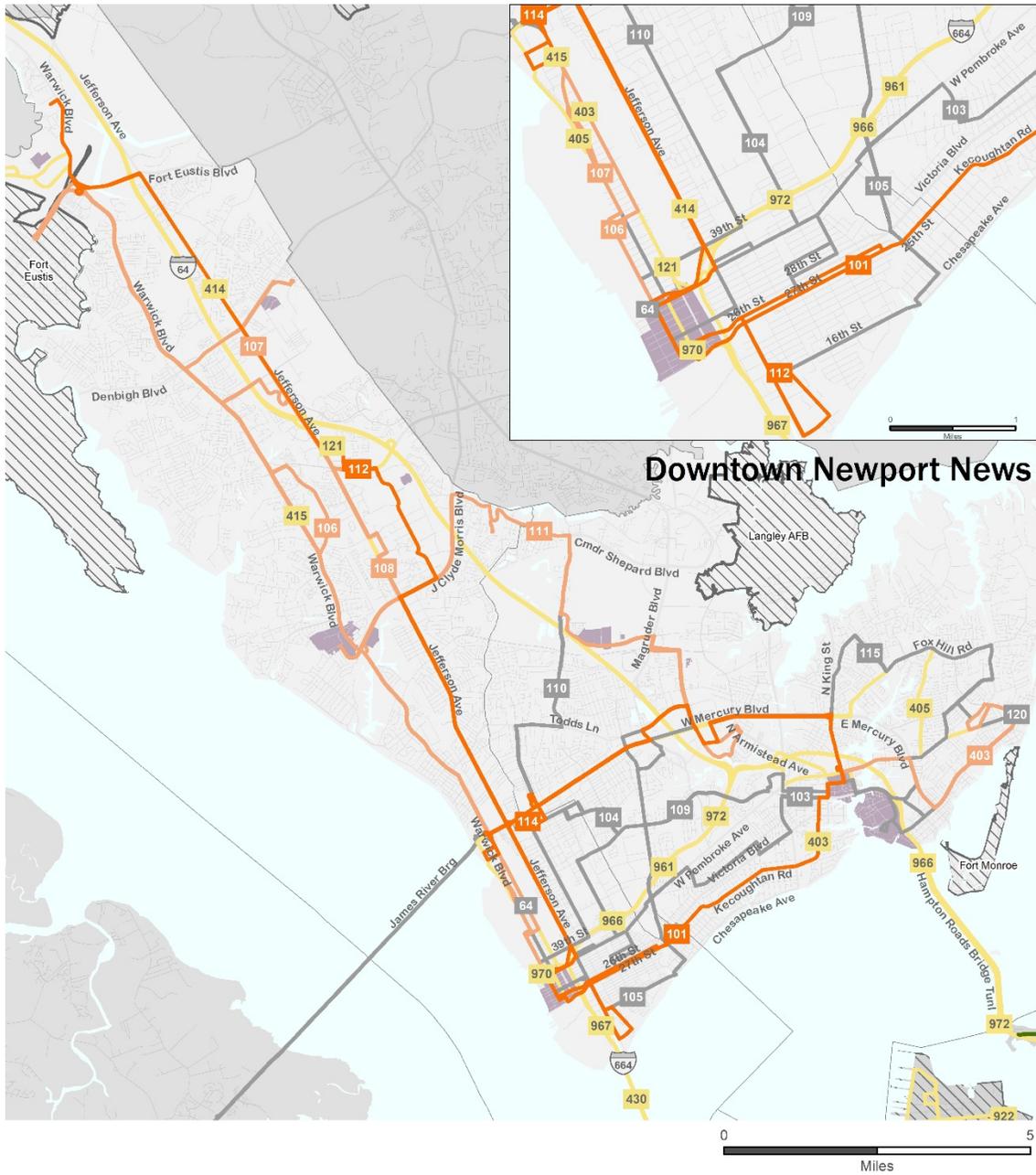
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<sup>9</sup> There are several routes which are being realigned and segments of routes are being taken over by other routes. Because of this, the phasing of the route changes needs to consider how some route changes are interdependent with other services. This is one justification for bundling routes into “buckets” that group together routes whose alignment changes should happen simultaneously in order to maintain a maximum amount of coverage and ridership potential in the system.

Table 6-14: Phasing Groups

| Group A        |  | Group B                          |   | Group C             |  |
|----------------|--|----------------------------------|---|---------------------|--|
| Program Funded | Related Routes   | Program Funded                   | Related Routes  | Program Funded      | Related Routes   |
| Route 101      |  | Route 1<br>Route 36              | <ul style="list-style-type: none"> <li>■ Route 22 (eliminated)</li> <li>■ Route 27</li> </ul>   | Route 2             | <ul style="list-style-type: none"> <li>■ Route 23</li> </ul>             |
| Route 112      | <ul style="list-style-type: none"> <li>■ Route 106</li> <li>■ Route 107</li> <li>■ Route 108</li> <li>■ Route 111</li> <li>■ Route 116 (eliminated)</li> <li>■ Route 118 (eliminated)</li> </ul> | Route 15<br>Route 45<br>Route 47 | <ul style="list-style-type: none"> <li>■ Route 41</li> <li>■ Route 43 (eliminated)</li> <li>■ Route 44</li> <li>■ Route 50</li> <li>■ Route 57</li> </ul> | Route 3<br>Route 21 | <ul style="list-style-type: none"> <li>■ Route 5 (eliminated)</li> </ul> |
| Route 114      |  | Route 20                         |   | Route 8             |  |
| Route 121      |  |                                  |   |                     |  |
| Route 403      |  |                                  |   |                     |  |
| Route 405      |  |                                  |   |                     |  |
| Route 414      |  |                                  |   |                     |  |
| Route 415      |  |                                  |   |                     |  |
| Route 430      |  |                                  |   |                     |  |
| Route 919      |  |                                  |   |                     |  |
| Route 922      |  |                                  |   |                     |  |
| Route 960      |  |                                  |   |                     |  |
| Route 961      |  |                                  |   |                     |  |
| Route 966      |  |                                  |   |                     |  |
| Route 967      |  |                                  |   |                     |  |
| Route 970      |  |                                  |   |                     |  |
| Route 972      |  |                                  |   |                     |  |

Figure 6-7: Grouping - Peninsula



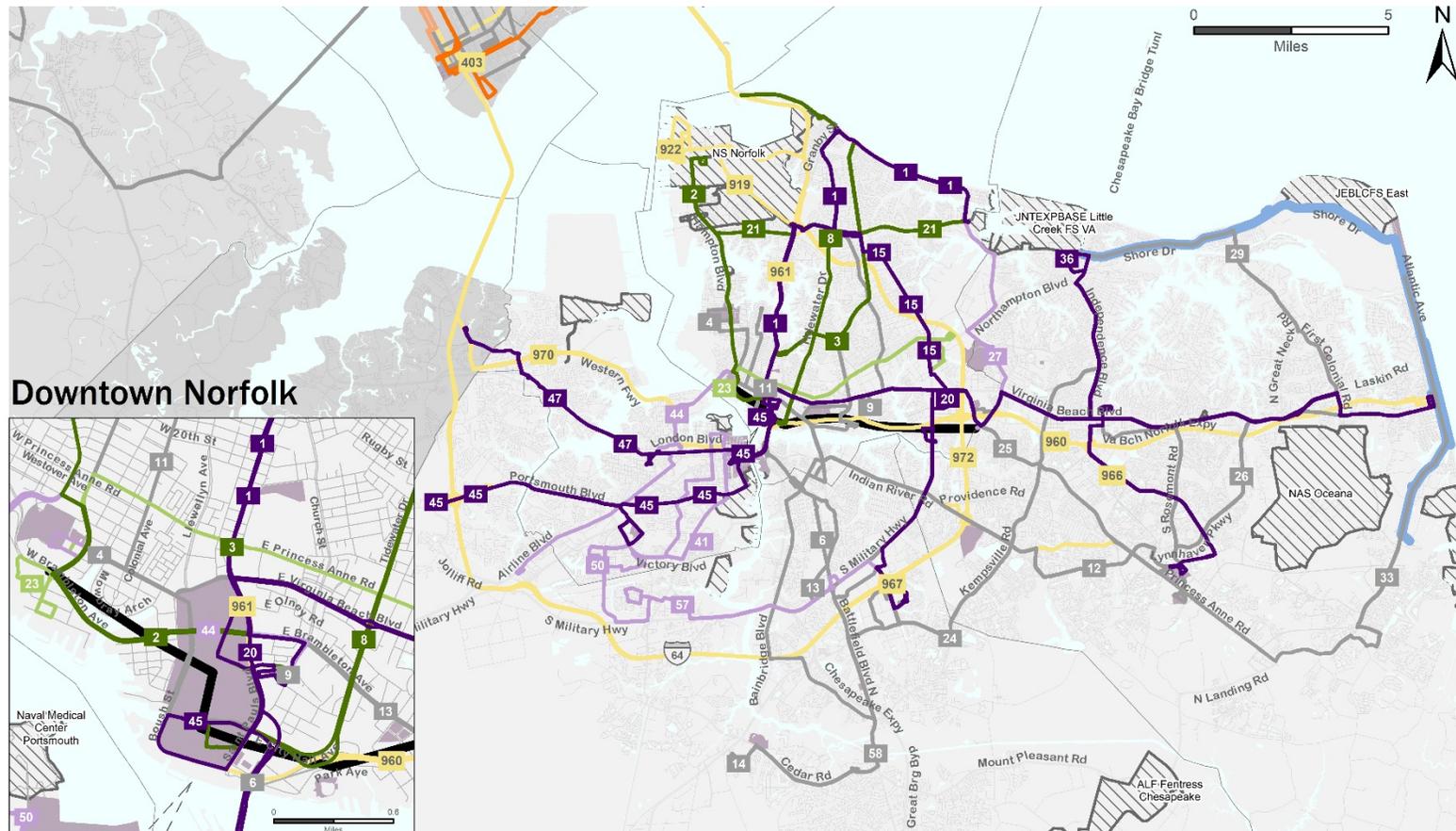
**Group A**

- Regional Backbone Routes
- Limited/Express Routes
- Other Related Routes
- Other HRT Routes



**PENINSULA: Hampton Roads Transit 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
-  Other Related Routes

**Other Services**

-  Other HRT Routes
-  Trolley
-  Light Rail
-  Ferry

**SOUTHSIDE: Hampton Roads Transit Regional Transit Program Grouping**

### 6.7.3. Capital Investments

In addition to the purchase of rolling stock (i.e., buses) and hiring and training operators and mechanics, the Regional Backbone network will require the implementation of technology investments related to real-time passenger information as well as installing Real-Time Passenger Information displays at the Downtown Norfolk Transit Center, the Newport News Transit Center (NNTC), and the Hampton Transit Center (HTC); mobile fare payment capabilities; and, facility upgrades. The implementation horizon for capital investments is shown in **Figure 6-9** and the segmentation of capital project types are shown in **Table 6-15**.

Figure 6-9: Implementation Horizon for Regional Backbone Network - Capital

|  | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 | YEAR 6 | YEAR 7 | YEAR 8 | YEAR 9 | YEAR 10 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| <b>Facilities</b><br>(Section A in Table 6-15)   |        |        |        |        |        |        |        |        |        |         |
| Procure Bus Stop Signage   | ■      |        |        |        |        |        |        |        |        |         |
| Facility Needs Assessments (18 months)   | ■      | ■      |        |        |        |        |        |        |        |         |
| Facility Design/Environmental (18 months)  |        | ■      | ■      |        |        |        |        |        |        |         |
| Facility Site Acquisition(s)   |        |        | ■      |        |        |        |        |        |        |         |
| Facilities Construction (VB and Peninsula Divisions)                                     |        |        |        | ■      | ■      | ■      | ■      |        |        |         |
| Safety Assessments and Certifications  |        | ■      | ■      | ■      | ■      | ■      | ■      |        |        |         |
| <b>Passenger Amenities</b><br>(Section B in Table 6-15)                                  |        |        |        |        |        |        |        |        |        |         |
| Passenger Amenities Procurement (shelters, lighting, benches)                            | ■      | ■      |        |        |        |        |        |        |        |         |
| <b>Technology Equipment</b><br>(Section C in Table 6-15)                                 |        |        |        |        |        |        |        |        |        |         |
| Technology Procurement (mobile fare payment, real-time technology, information displays) | ■      |        |        |        |        |        |        |        |        |         |
| <b>Vehicles</b><br>(Section D in Table 6-15)   |        |        |        |        |        |        |        |        |        |         |
| Group A Bus Procurement  | ■      | ■      |        |        |        |        |        |        |        |         |
| Group B Bus Procurement  |        | ■      | ■      |        |        |        |        |        |        |         |
| Group C Bus Procurement  |        | ■      | ■      | ■      |        |        |        |        |        |         |

Facility investment needs will include a new bus operating division in Virginia Beach to replace the undersized and functionally obsolete Parks Ave facility as well as a new satellite bus operating division in Newport News to accommodate the enlarged fleet needed to support the high-frequency network. The sole operating division on the Peninsula (3400 Victoria Boulevard facility) has no room for expansion and is “landlocked” by surrounding residential neighborhoods.

Other facility investments will include the addition of bus bays at the NNTC and HTC facilities to accommodate the peak period arrival and departure demands of the high frequency routes. A new off-street transit transfer center will be constructed in the city of Chesapeake to replace the current on-street operations. This facility will provide customer amenities such as restrooms and organized arrangement of bus bays, similar to HRT’s Wards Corner transfer facility. In the City of Norfolk, a new Evelyn Butts transfer facility will also be constructed to replace the current on-street operations. This facility will have ten bus bays, passenger restrooms, and passenger information displays.

The final facility investments related to supporting the Regional Backbone network will be the installation of approximately 525 new passenger shelters, benches, trash receptacles, and bus pads along the Regional Backbone routes. This will provide shelter for over 50 percent of stops on those routes. The bus stops will be fully ADA accessible and will include solar lighting at each shelter.

To delineate capital investments for the Program, Hampton Roads Transit (HRT) is utilizing a framework that adapts the project types utilized by the Virginia Department of Rail and Public Transportation (DRPT) in its administration of the statewide transit capital program, as shown in **Table 6-15**.

Table 6-15: Capital Projects Typology

| Primary                                 | Secondary  |
|---|--|
| <b>A. Facilities</b>                    | i. Planning, engineering, and design<br>ii. Real property acquisition<br>iii. Construction<br>iv. Maintenance  |
| <b>B. Passenger Amenities</b>           | i. Bus shelters (expansion)<br>ii. Bus shelters (maintenance/parts or replacement)<br>iii. Benches (expansion)<br>iv. Benches (maintenance/parts or replacement)<br>v. Trash receptacles (new)<br>vi. Trash receptacles (maintenance/parts or replacement)<br>vii. Signage (static or electronic)<br>viii. Other |
| <b>C. Technology Equipment</b>          | i. Customer assistance and support systems<br>ii. Ridership information systems<br>iii. Fare systems<br>iv. IT infrastructure<br>v. CAD / AVL systems<br>vi. Safety video systems<br>vii. Other  |
| <b>D. Vehicle</b>                       | i. Bus purchase (expansion)<br>ii. Bus purchase (replacement)<br>iii. Vehicle graphics package<br>iv. Engine replacement<br>v. Operations support vehicle (expansion)<br>vi. Operations support vehicle (replacement)<br>vii. Other  |
| <b>E. Maintenance Equipment / Parts</b> | i. Fueling station<br>ii. Maintenance inspection<br>iii. Replacement bus batteries<br>iv. Vehicle mid-life overhaul<br>v. Other  |

#### 6.7.4. Ongoing Operations & Maintenance

While capital costs are primarily focused on the acquisition of rolling stock, the purchase and installation of passenger amenities (e.g., shelters, benches, trash receptacles), the construction of new bus operating facilities, and investments in technology infrastructure so that passengers have the ability to access real time information and pay fares through mobile technology, Operating and Maintenance (O & M) costs are focused on the ongoing support of operating and maintaining a state of good repair of all assets in the Program. The implementation horizon for O & M investments is shown in **Figure 6-10**.



This list is a fair representation of the types of activities that are captured in the category of annual Operating and Maintenance costs. It does not provide an exhaustive list of every element to support the ongoing operations of the Regional Backbone network.

In addition to the physical aspects of maintaining the assets for the Regional Backbone network, there are the human resources needs that the Program will require. These include the following positions and/or functional areas:

- Bus Operator
- Mechanic
- Street Supervisor
- Revenue services support
- Bus cleaner
- Bus hosteler
- Storeroom clerk
- Bus operator trainer
- Fleet support personnel
- Facility cleaner
- Human Resource technician
- Technology personnel
- Outreach coordinator
- Service Scheduler
- Customer Service representatives
- Contracted security personnel
- Contracted services for additional cleaning and trash pick up

All operating costs related to the support of the Program will be fully segmented out by HRT, which in turn is the basis for utilization of Hampton Roads Regional Transit Fund moneys. As the new services come on-line, there will be a robust public outreach and market campaign that will be focused to educate area residents about the new high-frequency service improvements that are coming to their neighborhoods. Public education of the new services will be one of the keys to attracting choice riders to the system and ensuring there will be robust ridership. In addition, HRT will rebrand the new services to ensure that the routes in the Program have a distinct look, capitalizing on the appeal of a coordinated high-frequency network that is seamless, easy to use, and integrated in all cities. This will help to ensure the success of the new services.

## 6.8. Measuring Performance

Once Program services have been implemented the performance of these routes will be evaluated in accordance with DRPT guidance as outlined in the TSP Guidelines.<sup>10</sup> 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.

All of these measures will be important to assess on an annual basis in order to best understand the usage of each Regional Backbone and Limited/Express service and to identify where adjustments could be made to improve operations (e.g., 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 communities they serve and the economies they support.

<sup>10</sup> [http://www.drpt.virginia.gov/media/2526/transit-strategic-plan-guidelines-draft\\_clean\\_082918.pdf](http://www.drpt.virginia.gov/media/2526/transit-strategic-plan-guidelines-draft_clean_082918.pdf).

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. HRT's existing service design standards will be followed to monitor the on-going success of the Regional Backbone routes. Any remedial actions towards Regional Backbone routes will also follow existing HRT Service Standards policy. While it is important to measure the performance of each Regional Backbone service annually, at least 18 months should be given to routes that have received alignment adjustments in order for those routes to build a market and awareness of recent upgrades.

## 6.9. Next Steps

At the time of the TDCHR adopting its inaugural TSP, organizing to plan for and deploy regional transit services that make up the Hampton Roads Regional Transit Program is in early stages. Initial steps that need to be accomplished in order for improvements associated with Regional Backbone and Limited/Express services to be implemented in FY 2022 and beyond are listed below.

These action steps will allow for HRT administration to move forward with vehicle and other capital investments, to begin necessary studies for said capital investments, and for the hiring and training of the vehicle operators and maintenance staff. These next step items include:

- Validate the schedule and availability of Hampton Roads Regional Transit Fund moneys through HRTAC.
- Establish a Memorandum of Understanding (MOU) between HRT and HRTAC to support implementation of the Hampton Roads Regional Transit Program utilizing Hampton Roads Regional Transit Fund resources.
- Process applications to encumber regional funds and execute early procurement actions (e.g., shelter purchases, bus purchases).

## 6.10. Planning and Program Integration and Coordination

HRT will work directly with the Hampton Roads Transportation Accountability Commission (HRTAC) to solidify short-term (FY 2021 - FY 2023), mid-term (FY 2024 - FY 2027) and long-term (FY 2028 - FY 2030) plans – which shall be updated on an annual basis – to effectively leverage Hampton Roads Regional Transit Fund resources to implement the Program. On an annual basis HRT will explore and evaluate opportunities for effectively leveraging the resources of the Fund. HRT expects this to result in consistent and reliable dedicated regional funding for the Program.

In support of coordinated regional planning – in particular as it relates to collaboration and interfacing between services of HRT, Suffolk Transit, and Williamsburg Area Transit Authority (WATA) – HRT will directly collaborate with other transit systems and the Hampton Roads Transportation Planning Organization (HRTPO) as it coordinates a regional transit planning process as required in Virginia code section § 33.2-286 D.

HRT expects annual updates to its Transit Strategic Plan to achieve integration of planning and programming for both transit operations and funding, in order to maximize productivity and returns on investment for all improvements contained in the Program.