Norfolk Light Rail Transit Project

Section 5309 **REVISED**

New Starts Submission
For Fiscal Year 2006

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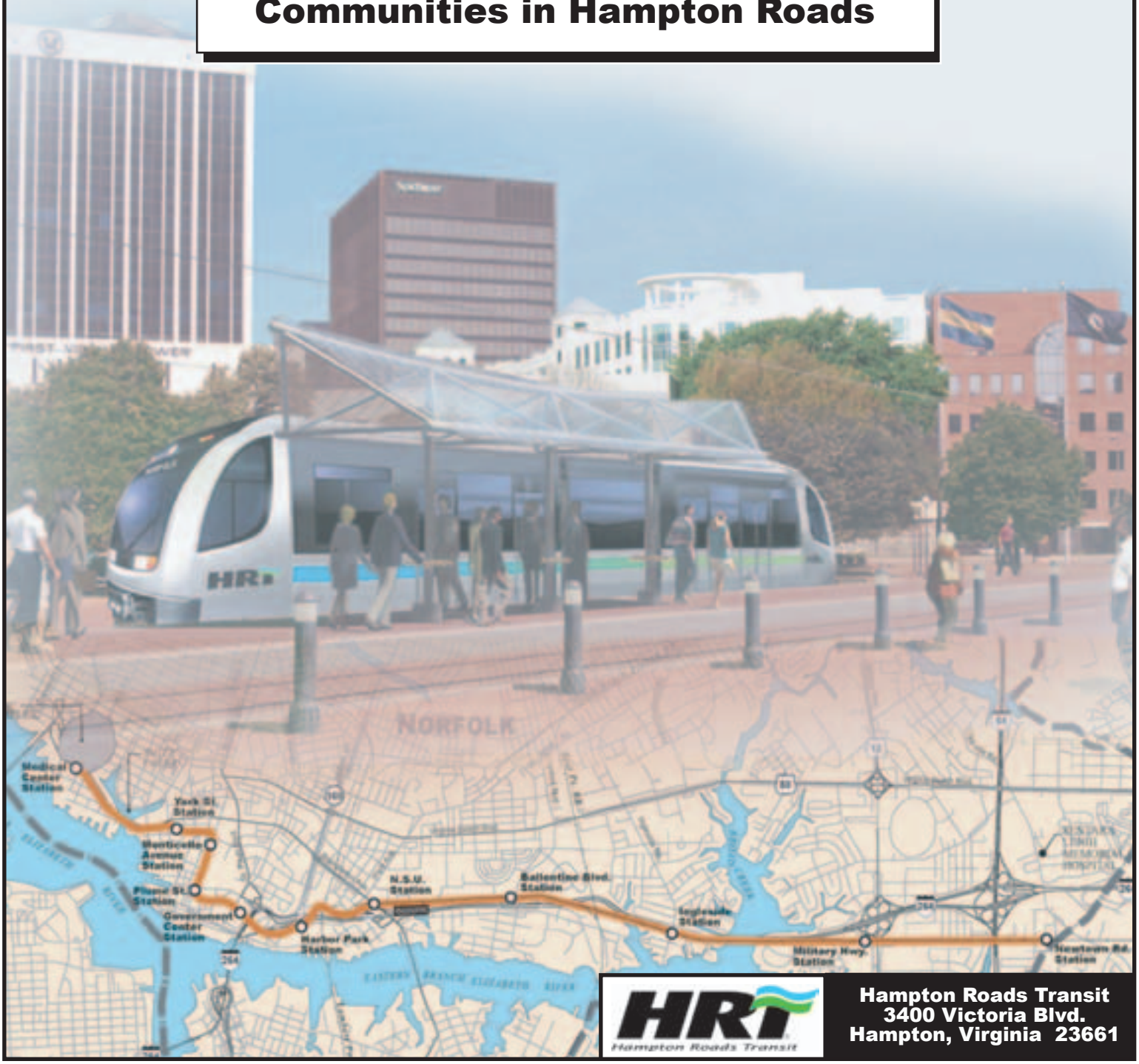
"Making the Case"
Connecting and Creating Vibrant Communities in Hampton Roads



Hampton Roads Transit
3400 Victoria Blvd.
Hampton, Virginia 23661

Norfolk Light Rail Transit Project
Making the Case

Project Purpose and Need

The Purpose and Need statement describes the problems and needs of the City of Norfolk. The main goal of the LRT Project is to provide transportation access and capacity to support the community's economic vitality. The purpose and need statement documents five issues centered around projections of increased population, employment and tourism that the LRT Project will address:

- Congestion
- Capacity constraints on the existing roadway system
- Insufficient and inadequate infrastructure
- Growth in vehicle miles traveled and air pollution; and
- Impacts of the rapid growth in tourism.

In addition, the Norfolk LRT Project will also provide transportation access and capacity to support the City of Norfolk's economic vitality. The proposed LRT project is critical to the economic development in downtown Norfolk.

The Project Study Area

Throughout the last decade, detailed planning and feasibility studies. have focused on the Project Study Area running east to west along an 18-mile stretch from the oceanfront in Virginia Beach to the Elizabeth River in downtown Norfolk. The studies have all identified the study area as the Hampton Roads region's priority corridor for a mass transit investment. The Hampton Roads Planning District Commission (HRPDC) has also consistently identified the study area as a location where mobility and capacity should be improved And has documented the need in every Congestion Management System (CMS) plan since 1990. The study area comprises one of the most populated areas and has some of the most traveled roadways in the Hampton Roads region as shown in Figure 1. However, geography limits the width of the study area to only a 3-miles corridor that is served by only two continuous roadways and one soon to be abandoned railroad right-of way that connect the Atlantic Ocean to downtown Norfolk: I-264, Virginia Beach Boulevard and the Norfolk Southern Railroad (NSRR) alignment (see Figure 2). Today, these roadways that run parallel to the NSRR right of way and the proposed LRT Project are operating at Levels of Service E and F. Congestion plagues the entry points into downtown Norfolk including I-264, Brambleton Avenue, Virginia Beach Boulevard, Tidewater Drive, and the bridges and tunnels in the area. The HRPDC 2026 Long Range Transportation Plan does not include expansion for I-264 because of engineering and property displacement impacts from lane additions to I-264.

As part of earlier planning and engineering work other mass transit alignments and technology options were explored as alternatives to traditional roadway improvements. However, physical constraints in the Project Study Area and funding constraints make expansion of the existing roadway system costly and socially and environmentally disruptive. The Norfolk-Virginia Beach Major Investment Study (MIS) which was completed in 1996, analyzed several different alignments including options along Virginia Beach Boulevard, I-264, and the NSRR right-of-way as well as transit technology options including:

- Travel demand management strategies
- Enhanced bus service
- Exclusive bus guideway
- Bus HOV lanes
- Bus Rapid Transit (BRT) in a dedicated lane
- Light Rail Transit (LRT).

The MIS resulted in the selection of LRT in the NSRR corridor from downtown Norfolk to the Virginia Beach oceanfront. The MIS revealed that right-of-way was not available for a dedicated bus guideway on either Virginia Beach Boulevard or I-264 without major impacts to businesses, residences, and sensitive environmental areas.

- Since 1996, bus transit service and ridership in the study area has expanded considerably . Now nearly 60 percent of the HRT transit service is directed to the area surrounding the Project Study Area.
- The corridor's heavy ridership is not limited to peak hours alone, but is spread throughout the day. A large percentage of the ridership is off peak ridership.
- The LRT Project corridor is a two way all day transit corridor with heavy ridership now and a demand for more transit services in the future.
- HRT's Route #20, operating along Virginia Beach Boulevard, is the highest ridership route in HRT's entire system with an end to end run time of 1 1/2 hours.

Definition of the LRT Project and the Baseline Alternative

The LRT Project corridor was focuses on the transportation issues and needs in the areas of greatest congestion problems and highest areas of population and employment growth. As shown in Figure 3, the LRT Project Corridor is bounded by Virginia Beach Boulevard on the north, I-264 on the south, Hampton Boulevard on the west, and Newtown Road on the east. The proposed 7.4-mile system, entirely within the City of Norfolk is shown in Figure 3. The project is exclusive double track guideway with some sections of shared street right-of-way, includes an expanded network of local bus routes that would feed the LRT line and 11 stations, some with bus drop off areas and some with park-and-ride facilities.

Two main service features of the Baseline Alternative are: 1) the introduction of express bus service between new corridor park-and-ride lots (Military Highway and Newtown Road) and 2) expanded NET service to the Eastern Virginia Medical Center complex. The Baseline includes the following new transit facilities:

- Military Highway park-and-ride – This facility must accommodate proposed express service to downtown Norfolk, connecting local HRT routes, and a park-and-ride facility. It would be located at the same site as the proposed LRT station in the Build Alternative
- Newtown Road park-and-ride - This facility must also accommodate proposed express service to downtown Norfolk, connecting local HRT routes, and a park-and-ride facility. It would be located at the same site as the proposed LRT station in the Build Alternative
- Harbor Park – A passenger loading area is required, in addition to the park-and-ride facility.
- EVMC Transit Center – A new transit center is assumed in the same vicinity as the proposed EVMC LRT station.
- Enhanced passenger amenities at the following downtown stops: Government Center, Plume Street/Bank Street, and Monticello/Charlotte.
- City Hall Plaza bus-only road.
- A small bus maintenance shop for expanded NET (Norfolk Electric Trolley) service.
- Enhanced passenger amenities at the following stops: Government Center, Plume Street/Bank Street, Monticello/Charlotte, Sentara Hospital Norfolk (EVMC).

Project Goals and Objectives and Benefits

During the preparation of the FEIS, the Project Purpose and Need was identified, as were specific goals and objectives. Issue statements were also defined and tied to the Project goals and objectives. In the following sections, the issues, goals and objectives are identified as well as the related benefits from the implementation of the LRT Project.

Issue 1*: Traffic congestion in Norfolk is projected to significantly increase in the future and thereby impact the quality of life for its residents. This issue is associated with Goals 1 and 2.*

Some area roadway congestion statistics follow:

- A 2003 HRPDC document entitled "Alternatives and Solutions: A Listening Session" showed over 45% of the region's severely congested roadways are located in the Project Study Area.
- A 2003 report by the Texas Transportation Institute (TTI) showed if public transportation did not operate in the Project Study Area, the annual delay in person hours would increase by over 1 million hours.
- According to TTI in 2002, the average peak period trip takes 21% longer than the same trip during free flow periods of the day.
- Per HRPDC, the average commuting trip took over 24 minutes in 2000 up from 21.6 minutes in 1990.
- A January 2000 study by HRPDC entitled "Hampton Roads Congestion Management System" found that without a mass transit investment, by the Year 2020 more than 18% of the Project Study Area's lane miles, accounting for 26% of the traffic, would be operating at a level of service E or F in the AM and PM peak periods.
- The average rush-hour speed on I-64 west of the I-264 interchange could drop to 25 mph within the next decade, down from the present 53 mph according to HRPDC.
- HRPDC projects that average rush hour speeds could be cut by roughly half, slowing to 5 mph or less in some water crossings.
- By 2030, HRPDC projects the number of registered vehicles to be 1.7 million up from 892,287 in 1990.
- Per HRPDC, the annual rate of VMT growth of nearly 1.5 % over the next 25 years. In 2002, VMT was over 35,000,000. Between 1998 and 2002, VMT increased 18% in the region but roadway capacity increased only 9.6%.
- According to HRPDC, 66 % of today's congested roadways have no identified funding for over 12+ years
- In 2003, there were nearly 33,000 highway crashes in Hampton Roads per HRPDC

- HRPDC projects the number of highway lane miles to grow by less than one percent per year in next 22 years.
- 63 % of the sample of point-to-point trips, constituting over 1,100 miles, exhibited worse travel time in 2000 than in 1995 based on a study by HRPDC.

A further compounding mobility problem in the Project Study Area is the intricacy of the transportation system. The system is made up of not only at-grade roadways but also bridges and tunnels that allow the citizens of Norfolk and Virginia Beach to traverse the waterways of Hampton Roads. According to an August 4, 2004 article in the Virginian Pilot, a recent study by Bert Sperling, ranked metro areas based upon difficulty navigating the streets. Norfolk ranked as the 10th worst metro area to navigate because of confusing geography due to waterways, street layout and sprawl. Other criteria included congested lane miles (46 %) and annual delay per person (13 hours).

According to the HRPDC travel demand model, travel in the LRT Project Corridor includes:

- Over 506,000 daily auto and transit trips
- 54 % of these trips are external or internal trips, with either the origin or destination located within the study area
- Almost 127,500 daily vehicle trips have both origins and destinations in the study area
- Remaining daily trips are trips traveling through the corridor

As shown in Figure 4, in both the Year 2000 and the Year 2026, the HRPDC plan shows levels of service (LOS) based upon average daily traffic (ADT) on the parallel and intersecting roadways of the LRT Project Corridor are at either LOS E or F:

- I-264 and I-64 (LOS F in both 2000 and 2026)
- Virginia Beach Boulevard (LOS E in 2000 and LOS F in 2026)
- Military Highway (LOS E in 2000 and 2026)
- Brambleton Avenue (LOS F in 2000 and 2026)
- Ballentine Boulevard (LOS E in 2000 and 2026)
- Tidewater Drive (LOS E in 2000 and LOS F 2026)
- St. Pauls Boulevard (LOS F in 2000 and 2026)
- Waterside Drive (LOS E in 2000 and LOS F in 2026)
- Boush Street (LOS E in 2000 and 2026)
- Hampton Boulevard (LOS F in 2000 and 2026).

Traffic congestion is already a problem in the LRT Project Corridor, especially on I-264 and Virginia Beach Boulevard the two roadways that parallel the LRT Project coming into downtown Norfolk.

- Between 2000 and 2026, the vehicle miles of travel (VMT) on I-264 and Virginia Beach Boulevard are projected to increase by an average of 26% resulting in as many as 80,000 additional vehicles per day, if unconstrained by capacity (HRPDC).
- The entire length of Virginia Beach Boulevard and Brambleton Avenue are projected to operate under moderate or severe congestion in the Year 2006 with the Virginia Beach Boulevard approaching gridlock.
- Engineering and property displacement issues prevent lane additions to I-264 and Virginia Beach Boulevard
- HRPDC's Long Range Transportation Plan (LRTP) for the next twenty years does not include plans for expansion of I-264 and Virginia Beach Boulevard.
- HRPDC's LRTP does not include any roadway expansion projects in the LRT Project Corridor. The only transportation improvements currently in the LRTP are preservation (mill and overlay) and management (new traffic signals) projects.

According to the City of Norfolk Downtown Transportation Plan and City of Norfolk Traffic Engineering Model, significant traffic congestion will continue to build in the present as well as into the future (Year 2026):

- Between 2000 and 2003, daily traffic on I-264 increased between 2,000 and 29,000 vehicles per day at seven locations along I-264 within the study area.
- From the travel demand forecasts for 2026, nearly all portions of I-264 located in the project corridor will reach capacity. Even for the estimated traffic demand for the Year 2006, all locations on I-264 were projected to be near or at capacity. With continued traffic demand increases, it may be expected that a breakdown of the transportation system served by I-264 would occur and divert traffic onto parallel routes, potentially causing system-wide congestion
- Existing roadway capacity on Brambleton Avenue will be reached by the Year 2006 resulting in a LOS F for the length of the roadway through Norfolk.

Goal 1: Improve mobility, access and reliability for personal travel

Objectives:

- Improve mobility for area commuters, including those who rely on public transportation.
- Provide intermodal connections between the proposed alternative and automobiles, buses, and ferry services.
- Expand, improve and preserve transportation choices for residents of the study area.
- Improve reverse commute options for individuals whose jobs are located in suburban areas.
- Enhance alternative transportation services for zero-car households.

Project Benefits:

Ridership and travel time-savings estimates from the travel demand model and FTA's SUMMIT software and the City of Norfolk Traffic Engineering Model support the benefits of the proposed Project as follows:

- 6,510 average weekday boardings are forecast for 2025. Nearly 80% of these (5,180) are work trips and 40% (2,750) are drive-access trips that have some portion of their trip removed from the congested street network.
- Over 80% (1,500) of new transit trips are forecast to travel in and out or within downtown Norfolk on an average weekday in 2025. These new trips contribute to a doubling of mode share for work trips into downtown over current conditions.
- Approximately 2,100 average weekday hours of user benefit are forecast for 2025.
- According to an HRPDC Travel Time Study released in June 2002, an auto trip in the PM peak hour from EVMC to Newtown Road took 23.1 minutes in 2000. By 2020, this same auto trip is expected to increase to 32.1 minutes. The same trip on LRT will take 22.3 minutes, a significant time-savings of 30% for each LRT passenger.
- Commuters traveling from Virginia Beach to downtown Norfolk on the LRT will save time over comparable bus service to destinations in downtown Norfolk. Examples of savings include:
  Military Highway to the Eastern Virginia Medical Center: 16 minutes saved over comparable bus service
  Kempsville/Newtown Road to the Eastern Virginia Medical Center: 15 minutes
  Virginia Beach Town Center to the Eastern Virginia Medical Center: 24 minutes
- Figure 5 shows the enhanced access to transit for low income and minority populations served by the LRT. Fourteen census block groups are predominantly minority representing 17,850 residents while nine census block groups are low-income representing 10,083 residents. Norfolk has a significant transit dependent population that needs to be served. In the 2000 Census, 14,000 of Norfolk's 86,000 households did not own a car. Based on the average occupancy factor of 2.7 persons per household, this translates to 36,000 people or about 16 % of the population that owned no car.
- Home-Based Work (HBW) trips have an income-type market segmentation (0 and 1+ car households). 68 hours or 3% of HBW benefits are attributable to 0 car households.
- Two key park- and- ride facilities would intercept traffic into downtown Norfolk: Military Highway and Newtown Road. Military Highway is a major north-south arterial paralleling I-64. This park- and- ride lot is easily accessible from the eastern neighborhoods of Norfolk and Chesapeake. Patrons from Chesapeake using this facility will avoid the congested Elizabeth River crossings into downtown Norfolk. Newtown Road is sited just east of the I-264/64 interchange and will serve as the major intercept point for park- and- ride trips from Virginia Beach. Park- andride patrons using both stations will be diverted from using I-264 which currently operates at LOS "F".

Goal 2: Contribute to a seamless, integrated regional multi-modal transportation network

Objectives:

- Provide for a cost-effective transportation investment.
- Contribute to a balanced regional transportation system that includes both highways and transit.
- Integrate LRT into a planned system-wide network of transitways.

Project Benefits:

- Project Cost Effectiveness Index (CEI) is $19.78 meeting FTA's criteria. For the cost effectiveness criterion, specific dollar thresholds are defined for "high", "medium high", "medium", "low-medium" and "low" ratings. Criterion-specific ratings are subsequently combined to form summary "high", "medium high", "medium", "low-medium" or "low" project justification ratings.
- The Project is the first phase in a planned system of LRT to include future connections to Naval Station Norfolk, the largest naval base in the world, Norfolk International Airport and service on the Peninsula in Newport News and Hampton that now a DEIS underway.

- The Project provides connections to HRT's existing HRT bus service and the ferry service operating on the Elizabeth River between downtown Norfolk and Portsmouth supported by an extensive feeder bus network to make seamless connections for users.

Issue 2: ***The current transportation system may not be able to support increased development in the future. This issue is associated with Goals 3 and 4.***

The City of Norfolk is actively pursuing redevelopment of its downtown and neighborhoods, however, traffic and parking issues may impact the marketability of this new development. The redevelopment of downtown has been focused on office and retail development. In 1999, the 1.2 million square-foot MacArthur Center urban marketplace opened reestablishing Norfolk as a high-end retail center with 2,500 new jobs and on average attracting 1 million shoppers a month.

In just the last six years the City has seen:

- Downtown property investment of $637 million
- Significant retail expansion at the Waterside festival marketplace
- Norfolk MSA was # 1 for department store sales increase in the U.S. in 2002
- Office expansion of 500,000 square feet worth over $150 million
- Residential investment of $200 million placing Norfolk in the Top 10 Cities in residential growth per the 200 Census
- Growth in downtown residents of 20% in the last 10 years
- Assessed value in downtown grew nearly 75% reaching $595 million in 2002.

The City of Norfolk and the Norfolk Redevelopment and Housing Authority have an expansive program underway to replace obsolete public housing in the city. For example, the Broad Creek Renaissance project, served by the proposed LRT Project will transform two public housing communities and 12 surrounding neighborhoods. Broad Creek is an 87-acre parcel near I-264 and Norfolk State University in the area of the proposed LRT Project. The City received a $35 million HOPE VI grant that is part of the $150 million project, to rehabilitate and replace the Robert Village and Bowling Green public housing projects. The grant will provide 234 new homes for sale, 300 units of new rental housing and a 100-unit complex of affordable housing for seniors at Franklin Arms that opened in September 2003 and is fully occupied and it will demolish 767 deteriorated public housing apartments.

HRT and the City of Norfolk have developed a traffic engineering model that encompasses both downtown streets and streets paralleling the LRT Project Corridor. Traffic engineering model results show that between 2002 and 2006, vehicular delay and congestion, including buses, will increase between 6 and 14% on major roadway corridors in Norfolk including:

- 11% delay increase on Brambleton Ave. from Park Ave. to Hampton Blvd.
- 8% delay increase on Virginia Beach Blvd. from Military Hwy. to Monticello Ave.
- 14% delay increase on Waterside/Boush St. from St. Pauls Blvd. to Brambleton Ave.
- 10% delay increase on St. Pauls Blvd. from Waterside Dr. to Brambleton Ave.
- 6% delay increase on Ballentine Blvd. from I-264 to Virginia Beach Blvd.

Goal 3: Ensure Norfolk's balance and economic competitiveness by providing a safe, reliable and efficient transportation option.

Objectives:

- Allow for more efficient use of the downtown parking supply
- Support redevelopment and revitalization efforts in Norfolk by increasing access and providing non-auto mobility options.
- Support the growth of tourism and entertainment in Norfolk.

Parking Needs:

A significant concern in downtown is the lack of available and affordable parking. Since the mid 1980's, HRT in cooperation with the City of Norfolk has operated the Norfolk Electric Transit or NET service in the downtown core. This service limits the buses to certain streets to limit the number of diesel buses operating in downtown for both air quality and congestion reasons. The NET serves the downtown fringe parking lots thereby managing the demand for parking in the core downtown parking facilities.

New land use developments have reduced the amount of surface parking spaces, so new parking structures have to be developed as replacements. In 2001, the City of Norfolk commissioned a parking study due to concerns about the current parking supply in the downtown core. The City owns 12 parking structures and 16 surface lots controlling about 65 % of the existing inventory. Combined with private garages and on-street parking, there are approximately 28,000 parking spaces, of

which 18,000 are city owned in downtown Norfolk. Parking occupancy is expected to increase by 2010. Parking is over capacity in some sections of the downtown core. For example, using Census Block references between Harbor Park and EVMC there are 13 blocks that are between 80 % and 90 % occupied, 1 block that is 90 % to 100 % occupied and 29 blocks that are over 100 % capacity. The parking study indicates that there will be a localized deficit of more than 1,100 short-term parking spaces in the downtown area by 2005, growing to 3,442 spaces by 2010 and 6,579 spaces by 2020. This deficit is primarily focused around the Granby Street corridor, the Government Center, and Waterside all of which are served by the proposed LRT Project. Figure 8 depicts the current parking utilization in downtown Norfolk. Local property managers and developers have indicated that the cost and supply of downtown parking has been a significant deterrent to marketing downtown Norfolk to new office tenants.

As detailed above, parking supply and demand is currently a problem in localized areas in downtown Norfolk and with the resurgence of new and redevelopment projects occurring, the issue of parking availability will continue to be one of increasing magnitude. The Norfolk LRT Project is adjacent to areas of the greatest parking supply deficits in downtown Norfolk, allowing the LRT system to provide an attractive alternative to automobiles. Additionally, aggregate demand in the year 2000 for parking within a quarter mile radius of the LRT Stations is near to or over capacity, if the effective supply is used. In the Years 2005 and 2010, this demand exceeds supply available within the quarter mile radius of the LRT Stations by 17 percent (which is greater than the 900 feet "reasonable" walking distance estimated by Walker Parking Consultant). The public's perception is that parking is a problem in the existing condition in some areas of downtown Norfolk. This perception is supported both by analysis in this paper and from the parking study results. Walker Parking Consultants used 2010 as their longest range forecast, which is just two years beyond the operational year for Norfolk LRT (2008), and it is apparent that with continued development and intensification of downtown uses, demand versus parking supply will become increasingly constricted in future horizon years.

However, with the introduction of LRT, demand placed on an already capacity constrained parking supply within downtown Norfolk would be significantly alleviated. Based on ridership forecasting results, the demand for over 500 parking spaces would be removed in the downtown Norfolk core with the implementation of LRT. Similarly, in the area of EVMC where the implementation of the 2010 Medical Center Master Plan has placed an increased demand on the limited parking supply, the demand for over 200 parking spaces would be removed. Finally, with LRT operating in downtown Norfolk, parking demand at Harbor Park would be relieved with the removal for the need of 150 parking spaces.

Recently announced development plans in downtown Norfolk on or within blocks of the LRT Project creating an increased parking demand include:

- A $100 million twin 15 and 25-story residential towers at Granby Street and Brambleton Avenue with 400 luxury condominiums and retail space
- Relocation of BB & T headquarters and the sale of their parking lot to develop a 25-story Hilton Hotel.
- New $51 million, 19-story tower for Trader Publishing Company on Granby Street. This will add 500 new jobs downtown when the tower opens in the summer of 2006 and will add 1,400 parkers to the demand over the next 7 years. The tower will replace the current Federal Square parking facility, the City's highest demand lot. It will include a new parking garage of approximately 700 spaces that does not meet the current garage demand or newly added demand.
- Tidewater Community College Administration building with a demand for approximately 100 more parking spaces.

These developments were not included in the previous Walker parking study that estimated demand and supports HRT's projection that the demand and deficit as noted previously will continue in the future in the downtown core area.

Project Parking Benefits:

Two segments of the downtown market that benefit specifically from LRT are the "remote parkers" and the non home-based incidental or "lunch time" trips. Remote parkers are those patrons who park at the Harbor Park and other fringe parking lots and transfer to the NET service in the Baseline Alternative and to LRT in the Preferred Alternative to make their trip to downtown.

- Commuters parking in the fringe lots that surround downtown Norfolk will save an average of over $1.00 per day in parking costs which is equivalent to 7 minutes of driving time. The approximately 7,950 parkers forecasted for the downtown core, the 2,200 parkers forecasted for Harbor Park, and the 1,470 parkers in the remaining fringe lots will experience 1,200 hours of benefits over the Baseline Alternative in 2025.
- Approximately 930 trips per day are projected to be incidental or "lunch time" trips. These non-home based trips will primarily be made in the downtown area for short trips for meals, shopping, etc.

Redevelopment/Development Activities

The City of Norfolk adopted the "Downtown Norfolk 2010 Plan: A Vision for the Next Decade" continuing its growth and development including the LRT project. Investment in residential, retail, office and other commercial growth is targeted in several locations on or nearby the LRT Project including Lower Granby Street, Boush Street, Charlotte Street, East Freemason, Opera Place, and Fort Norfolk. HRT is already working with the developer of the York Street Station residential development adjacent to the LRT Station. Significant growth is also happening beyond the downtown core such as adjacent to the proposed Military Highway Station where an adjacent property owner approached HRT to design a "transit supportive" development plan.

Fort Norfolk is a significant downtown mixed-use redevelopment project adjacent to the planned Medical Center Station. Figure 6 shows the Fort Norfolk concept plan and Figure 7 is a rendering of the project including:

- The first phase, currently under construction, is a 260 unit, $90 million Continuing Care Retirement Community called Harbor's Edge.
- 2,200 residential units
- 850,000 square feet of office/research space
- Commercial/retail/restaurants
- Hotels/marinas
- $1.3 million public park known as Plum Point.

Tourism/Entertainment

In the last six years, the tourism and entertainment market in Norfolk has continued its phenomenal growth. All of this development has occurred during the same time period LRT planning has been underway and as noted below more tourism growth is planned:

- New and renovated hotels worth $87 million with over 1,000 new hotel rooms making Norfolk the #1 city for occupancy growth in the U.S. in 2002.
- Restaurant and retail development worth $80 million including 60 new restaurants.
- Total sales in the greater downtown area grew 66% reaching $1.2 billion in 2002
- Two-thirds of the revenue generated in downtown is by non-Norfolk residents. People average 30 visits a year to downtown Norfolk, up from 9 visits in 1999.
- New tourist destinations
  - More than 400,000 visitors to Nauticus in 2003, a doubling since 1997
  - USS Wisconsin visitors numbered 380,00 in 2003 with a total of 850,000 since its 2001 opening
  - 34 cruise ships with 50,000 passengers in 2003 growing to 114,000 in 2004 with Holland America and Celebrity making the Nauticus Pier their home port

Increased congestion and the resulting decreased mobility is a significant deterrent to growth in the tourism sector. The ability to move tourists to destinations within Norfolk and the region, and enhance or lengthen their stay is an important factor in continued tourism growth. Figure 9 shows downtown area attractions.

Project Benefits:

- The primary parking for cruise passengers is at Harbor Park, several blocks from the cruise terminal. Cruise passengers for their downtown circulation needs can use LRT.

Goal 4: Create transit corridors that link residential, educational and employment centers to reduce vehicular use.

Objectives:

- Provide an alternative means of transportation.
- Encourage the concentration of employment and activity sites within transit corridors to maximize transportation efficiency.
- Develop transportation alternatives that support pedestrian oriented development.
- Connect medical centers, retail complexes, educational institutions and entertainment venues.

Project Benefits:

The LRT system provides many important linkages in Norfolk as shown in Figure 10 including:

- Two major regional retail complexes (MacAuthur Center and Military Circle Mall), three hospitals (Sentara Leigh with 5,000 employees including associated medical offices, Sentara Norfolk General and Children's Hospital of the King's Daughters with 12,000 current employees and 20,000 employees projected in 2026 including EVMC), three educational institutions (Norfolk State University with 1,000 employees and 6,800 students, Tidewater Community

College with 1,100 commuter students, and Eastern Virginia Medical School - EVMC), a minor league ball park (Harbor Park with 68 annual games with average attendance of 12,000 per game), and downtown office buildings and cultural attractions with 43,000 employees in the downtown core in 2003.

- EVMC has a planned expansion of $94.5 million for a 112 bed, 254,000 square-foot Heart Pavilion. The Center for Biometrics opened in 2003, as a state-of-the-art research facility and is a joint venture by Old Dominion University and Eastern Virginia Medical School.
- LRT creates linkages to existing and planned residential neighborhoods in Norfolk including low-income and minority population areas as previously documented.
- Adjacent to the planned LRT station at Norfolk State University (NSU) is the Research and Innovations to Support Empowerment (RISE). The RISE project is a public-private partnership devoted to technology and workforce development, business incubation, and hosting corporate research and development:
  - First phase, which broke ground in October 2003, is an $18 million building with 160,000 square feet housing the Center for Materials Research, the Center for Entrepreneurship, a welfare-to-work program and a daycare center
  - Total project is $300 million with 1.3 million square feet and 1,200 employees.

HRT has agreements with Tidewater Community College, Norfolk State University (NSU), Eastern Virginia Medical Center and Old Dominion University. These agreements define the universities' commitment to having students and faculty use LRT in lieu of building additional on campus parking allowing the universities greater opportunities for campus development. There is also an agreement with NSU for shared use parking at the Ballentine Boulevard LRT Station.

HRT is currently negotiating with Norfolk Southern Railroad on behalf of the cities of Norfolk and Virginia Beach for right of way for LRT. The City of Virginia Beach is actively participating to preserve the right of way for a future transportation corridor. Their comprehensive land use plan increases densities between I-264 and the Norfolk Southern right of way. A new "Town Center" was identified in that planned the first 22-story mixed-use building has opened as have several other retail establishments in the area. The plan and Town Center covers 17 city blocks and 70 acres of land and will include 832,000 square feet of retail and 334 residential units. The second phase is now underway and includes the residential units, a 12-screen movie theater, a public plaza and additional retail development. There are 33,000 residents within a 5-mile radius of the Town Center.

Issu*e 3: Increased air pollution: The Hampton Roads region is an ozone non-attainment area. This issue is associated with Goal 5.*

In 1997, the Hampton Roads region was declared to be in attainment to national air quality standards for ozone. The area had been in violation of federal standards for ozone since 1991. The Commonwealth of Virginia and the Environmental Protection Agency are currently monitoring the ozone levels in Hampton Roads based on a 10-year plan for maintaining certain air quality goals. However, in April 2004, the EPA released its new 8-hour standard for ozone. According to this standard, Hampton Roads is in an ozone non-attainment area and is required to be in compliance with the standard by June 2007 or face possible federal sanctions. Such sanctions could impact the region's highway finding making transit even more important.

Goal 5: Protect and preserve the environment, promote energy conservation, increase safety and improve the area's quality of life.

Objectives:

- Provide a transportation system that offers a balance between transportation needs and environmental quality.
- Reduce automobile vehicle miles of travel in the Hampton Roads region to obtain compliance with the new 8-hour ozone standards.
- Encourage efficient land use patterns by supporting development in existing urban areas.
- Maintain acceptable levels of air and water quality.
- Encourage use of alternative fuels and technologies in transit applications.

Project Benefits:

- LRT implementation results in a decrease of annual vehicle miles traveled (VMT) of 13,680,00 miles in 2026 which can assist the region in complying with the new ozone standards. This compares to a Baseline Alternative reduction of 11,143,500 VMT.

- LRT results in a regional emissions reduction of 201.2 tons of carbon monoxide (CO), 4.69 tons of hydrocarbons (Nox) and 4.92 tons of Volatile Organic Compounds (VOC). The Baseline Alternative reductions are 163.9 tons of CO, 3.82 tons of Nox and 4.01 tons of VOC.
- Within the corridor, the Project would change travel patterns in Station areas. An analysis of the potential air quality effects associated with these changes found that neither the National Ambient Air Quality Standards (NAAQS) nor state standards for carbon monoxide or ozone would be exceeded at intersections whose traffic volumes would be affected by the Project.

Summary

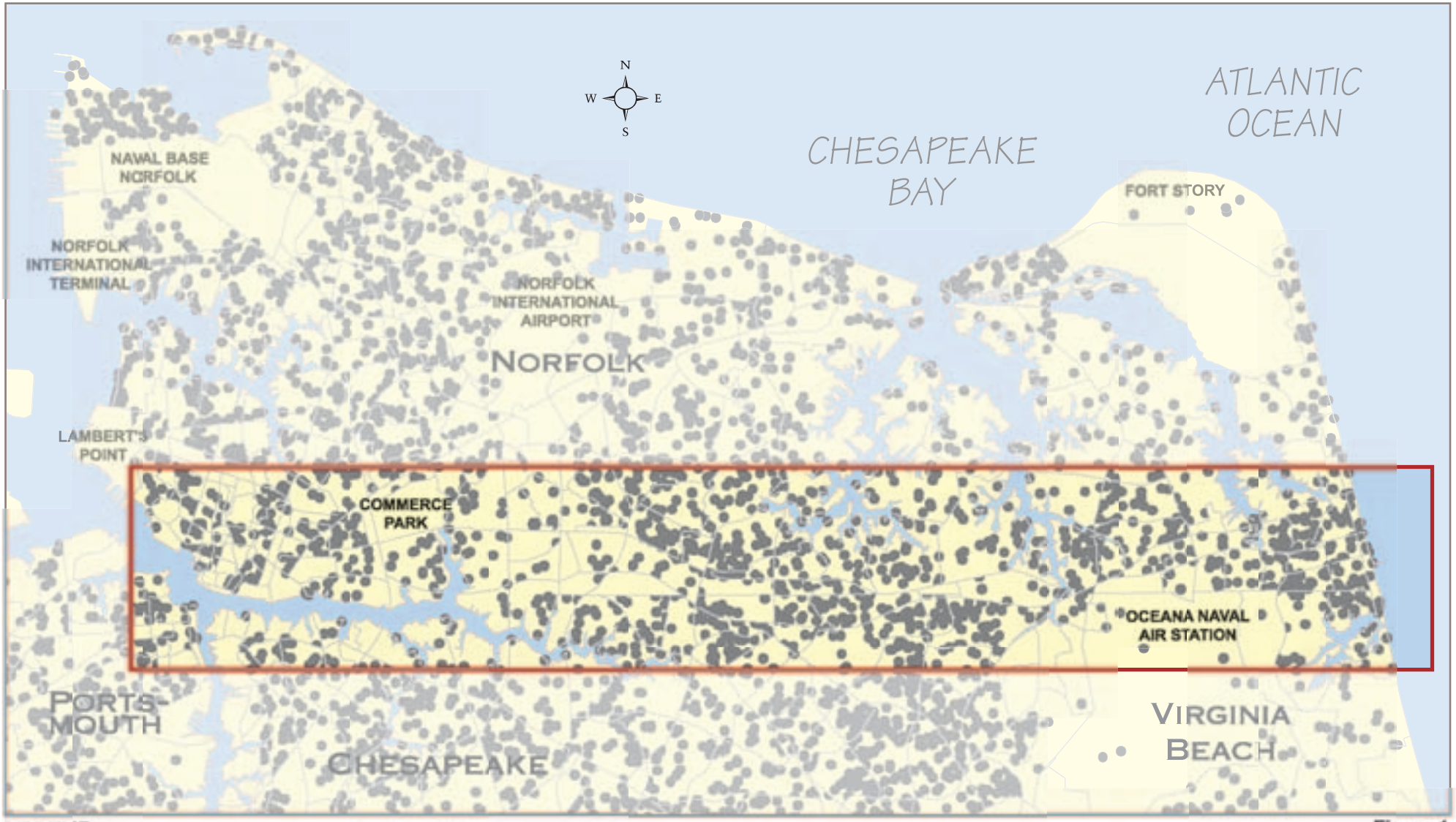
The proposed LRT Project is strongly supported by the City of Norfolk because of its importance in supporting their community vision including economic growth and its potential to reduce existing and future traffic congestion as well as enhance the region's air quality and quality of life.

The City has made substantial public improvements to leverage increased private investment in residential, retail, office and tourism development in the downtown and surrounding areas. Building light rail is the next important step in achieving the community's vision and improving our quality of life

Norfolk Light Rail Transit Project

Project Study Area: Population Density

Year 2026 Forecast



LEGEND

● = 200 People

Figure 1

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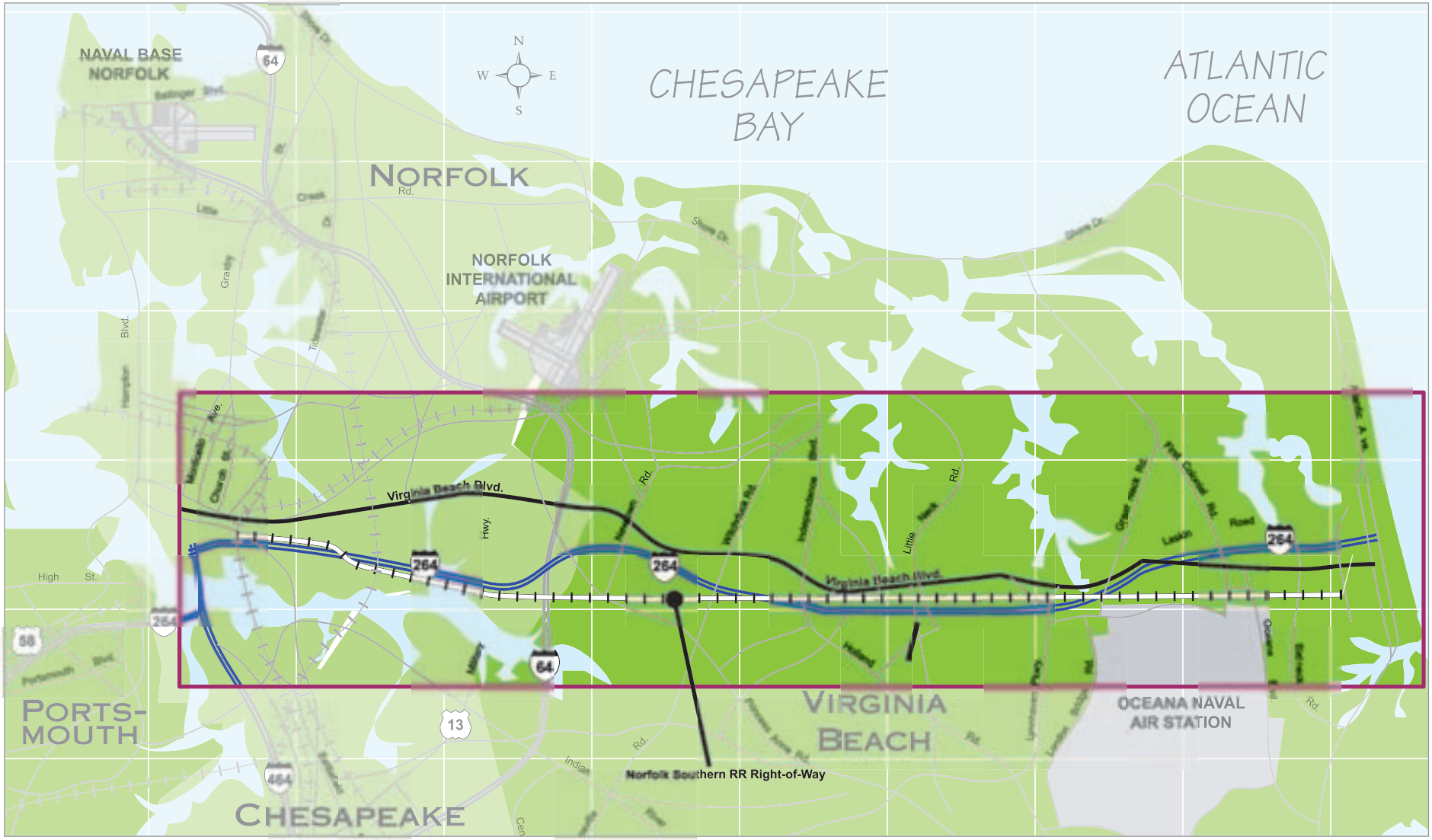

LEGEND

Project Study Area

East / West Transportation Corridors

Figure 2

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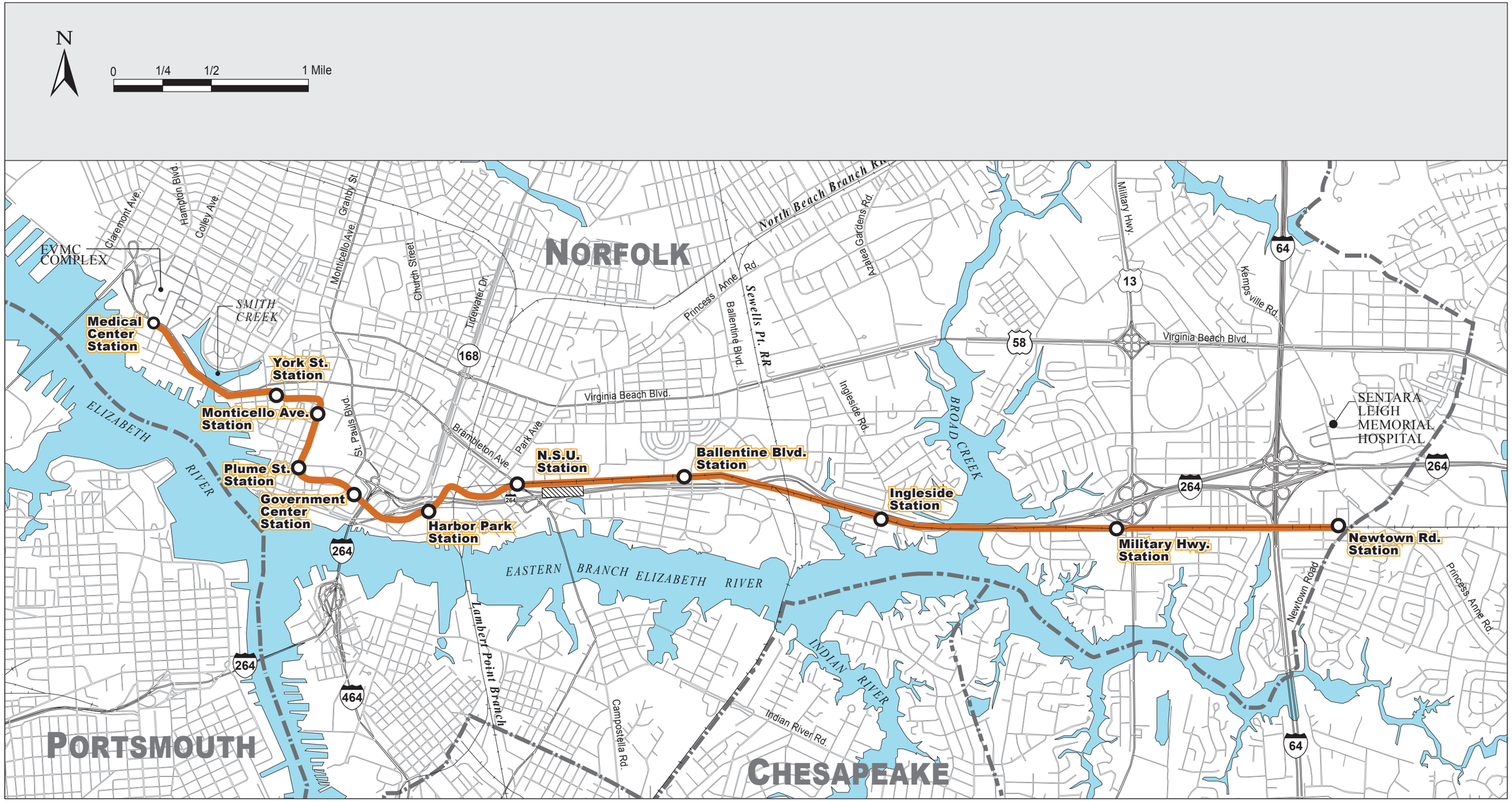
LRT Project Corridor



LRT Alignment

Recommended Station

Vehicle Storage and Maintenace Facility

City Boundary Line

Figure 3

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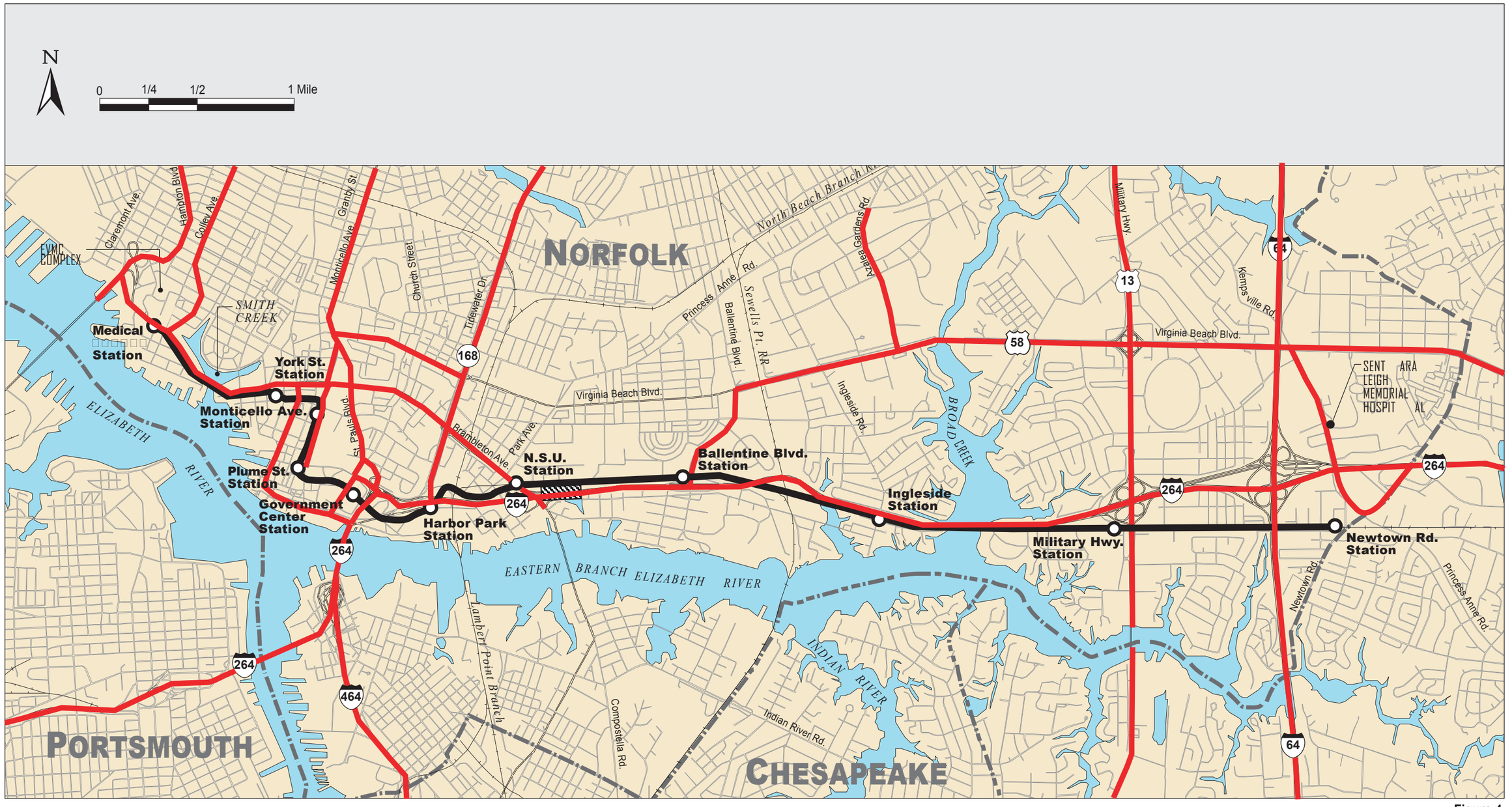
Year 2026 Traffic Conditions: Level of Service E - F Roadways



LRT Alignment

Station

City Boundary Line

Vehicle Storage and Maintenance Facility

Level of Service Designation

Level of Service E - F in Year 2026

Figure 4

Source: HRPDC - Year 2026 Alternatives and Solutions: A Listening Session, October 2003

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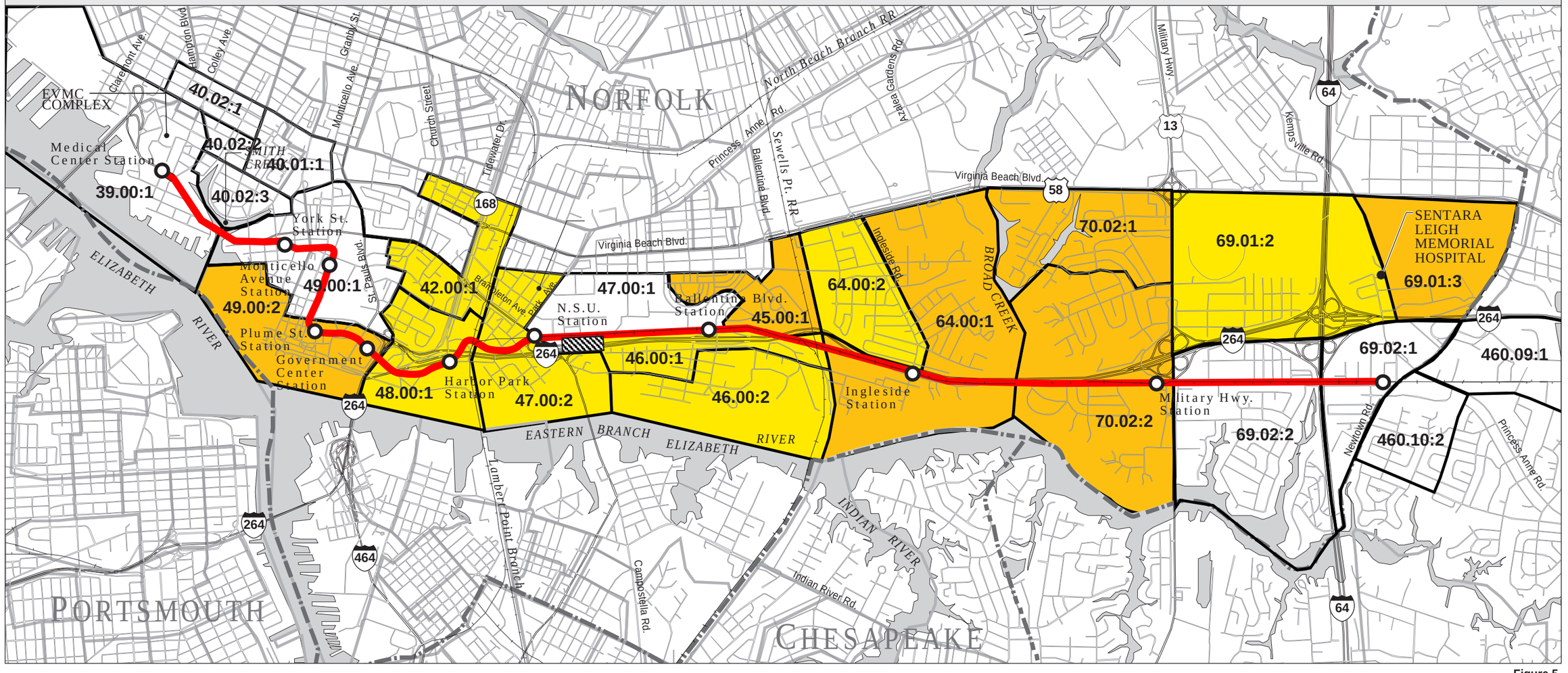
Low Income and Minority Census Block Groups



LRT Alignment

Station

City Boundary Line

Vehicle Storage and Maintenance Facility

Non Low Income / Non Minority

Minority

Low Income / Minority

Figure 5

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Proposed Atlantic City/ Fort Norfolk Development

Norfolk Light Rail Transit Project

Figure 6

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Proposed Atlantic City/ Fort Norfolk Development

Figure 7

Norfolk Light Rail Transit Project

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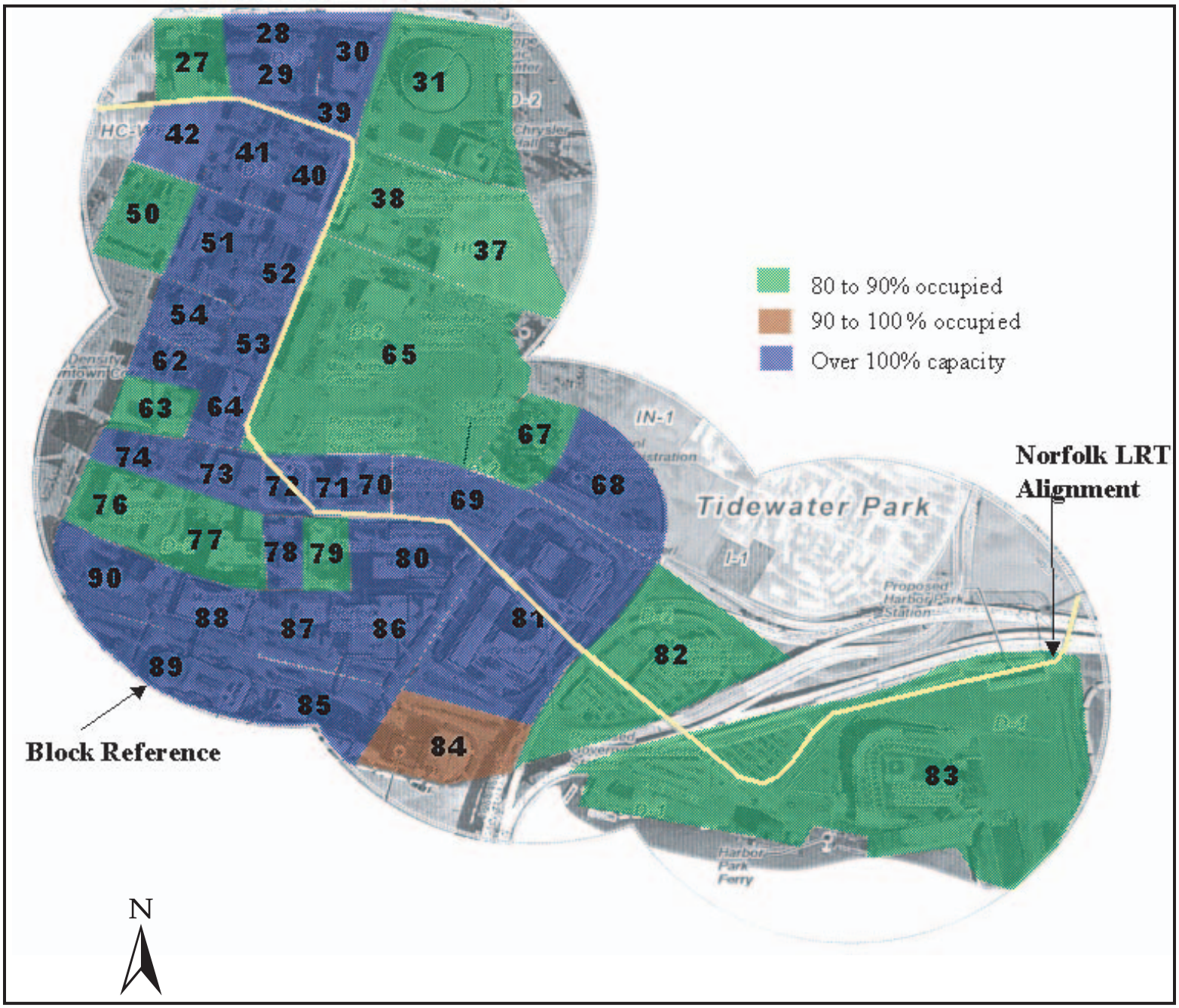
Parking Utilization in Downtown



Norfolk Light Rail Transit Project

Figure 8

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Downtown Area Attractions

Figure 9

Norfolk Light Rail Transit Project

LRT Alignment

Recommended Station

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Norfolk Light Rail Transit Project
Major Activity Centers

LRT Alignment

Recommended Station

City Boundary Line

Vehicle Storage and Maintenace Facility

N

0 1/4 1/2 1 Mile

Figure 10

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