

## **1.0 PURPOSE AND NEED**

Hampton Roads Transit (HRT) is preparing this Final Environmental Impact Statement (FEIS) for the Norfolk Light Rail Transit Project to document the changes to the Norfolk-Virginia Beach East/West Light Rail Transit System (Norfolk-Virginia Beach LRT) since the preparation of the Final Environmental Impact Statement for that project in March, 2000. The Norfolk-Virginia Beach LRT system was defined as an 18-mile transit system connecting downtown Norfolk to the Pavilion area of Virginia Beach. The modifications to the Norfolk-Virginia Beach alignment considered now, were necessitated by a decision by the City Council of Virginia Beach to no longer support the bi-city LRT system as a result of a November 2, 1999 city-wide non-binding referendum. This FEIS documents the costs, benefits, and impacts associated with a Norfolk LRT project that lies entirely within the jurisdictional boundaries of the City of Norfolk.

The proposed Norfolk LRT Project is a 7.4-mile Light Rail Transit system that will operate from the Eastern Virginia Medical Center complex to the Newtown Road area of Norfolk. Figure 1-1 shows the old 18-mile alignment alongside the new 7.4-mile Norfolk alignment. The segment previously studied, running from Plume Street to Kempsville Road, remains substantially unchanged except for the addition of two stations at Ballentine Boulevard and Ingleside Avenue, and the relocation of the vehicle storage and maintenance facility. A western extension, from Plume Street through downtown Norfolk and across Smith Creek, has been added to the proposed project to connect it to the Eastern Virginia Medical Center complex on Brambleton Avenue. The portion of the alignment past Kempsville Road, in Virginia Beach, that was proposed in the Norfolk-Virginia Beach FEIS was not examined as part of this effort. The Norfolk LRT project alignment ends on the west-side of Newtown Road near the intersection with Kempsville Road.

The revised Norfolk LRT Corridor traverses a vibrant and busy area, packed with strong neighborhoods, institutions, businesses, and attractions. Along with downtown Norfolk, major centers of activity include several higher education institutions, a regional medical center, and several entertainment/sports facilities. The Norfolk LRT Corridor is key to the region's connectivity. Interstate 264 (I-264), Virginia Beach Boulevard, and Brambleton Avenue are major arteries for vehicular traffic. Major north/south connections include Interstate 64 (I-64), Military Highway, and Tidewater Drive. Transit service in the corridor is provided by buses, which have extremely strong ridership and serve many people who depend upon transit for their trips. An improved public transit option in the Norfolk LRT Corridor would form an additional intermodal option and build upon an established transit ridership base.

Travel in the Norfolk LRT corridor includes over 450,000 daily trips, according to the Hampton Roads Regional Model. Furthermore, nearly half of these trips are either external or internal trips, with either the origin or destination located within the proposed LRT project study area. In addition, almost 120,000 trips have both origins and destinations in the study area. The remaining trips have origins and destinations outside of the corridor. This amount of daily traffic explains the need for transit

improvements, which would uphold the mobility and vitality of the corridor. For the past 15 years, the I-264 Corridor has consistently been identified as a location where mobility and capacity should be improved. This corridor is the backbone, the critical main link in the existing transportation network. Moreover, the proposed LRT alignment has the potential to be one of the strongest transit corridors in southern Virginia, with ridership rivaling that of any transit corridor in comparable cities the same size as Norfolk. It links some of the largest traffic generators in Hampton Roads, including downtown Norfolk and its Central Business District, several university campuses, two medical complexes, the sports/entertainment district in Norfolk, and the residences and medium sized businesses along the entire corridor. Furthermore, the corridor connects two employment districts and is home to significant population, employment, education and cultural districts.

Transit options were explored, as alternatives to traditional roadway improvements, because the physical constraints in this developed corridor and funding constraints would make expansion of the existing roadway system costly and socially and environmentally disruptive. Better transit options could divert people from the roadway system, thereby reducing congestion increases, increasing mobility and offering better options to both current and future transit riders. As the core of the overall regional network, the high ridership in this corridor represents one of the region's best opportunities for a significant capital investment that can be leveraged to raise the ridership and benefits of the entire transit system.

Following the Virginia Beach referendum, the Commissioners of the Transportation District Commission of Hampton Roads (TDCHR) reevaluated the alignment options for Light Rail Transit in their Hampton Roads service area. The Commission, in partnership with the City of Norfolk, requested HRT to identify a light rail segment that could efficiently and effectively support the continued redevelopment of downtown Norfolk, connect neighborhoods, shopping, and educational institutions and build upon the previous planning studies helping to reduce traffic congestion and alleviate downtown parking shortfalls. Several alignment options were considered during the Scoping process and as part of the Supplemental DEIS (see Chapter 2). The recommended LRT alignment is a hybrid of several options that were identified.

While the overall LRT project has been reduced from an 18-mile alignment to a 7.4-mile alignment, the original purpose and need statement has been refined only slightly to address the problems and needs of the City of Norfolk. The main goal of the original 18-mile LRT alignment was to provide transportation access and capacity to support the community's economic vitality. In Virginia Beach, supporting tourism was identified as one of the critical roles of the proposed LRT project. The original purpose and need statement documented five issues centered around projections of increased population, employment and tourism that should be addressed by the LRT system:

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

The focus of the Norfolk only LRT system is also to provide transportation access and capacity to support the City of Norfolk's economic vitality. The Norfolk LRT project would address the same problems identified in the Norfolk to Virginia Beach LRT plan, except that, in Norfolk, supporting economic development in downtown Norfolk has been identified as one of the critical roles of the proposed LRT project.

# 1.1 Independent Utility and Logical Termini

In the development of a major transportation project, U.S. Department of Transportation (USDOT) regulations outline three general principles to advance a project through the stages of planning, environmental clearance, design and construction. Simply stated, the three principles require the project sponsor to consider a “whole” or integrated project. The project should: (1) satisfy an identified need, (2) should be considered in the context of local area socio-economics and topography, and (3) consider future travel demand, and other infrastructure improvements in the area. If a project meets these tests, it is found to have “independent utility,” and can be evaluated as a stand-alone action, independent of any other, though potentially related, projects.

To justify a separate and dedicated environmental evaluation of a proposed action and its alternatives, a project to be evaluated in an Environmental Impact Statement (EIS) should adhere to the following three principles:

- **Connect logical termini** and be of sufficient length to address environmental matters on a broad scope. Logical termini for project development purposes can be defined as: (1) rational end points for a transportation improvement, and (2) rational end points for review of the environmental impacts;
- **Have independent utility** or independent significance, i.e., be usable and be a reasonable expenditure even if no other transportation improvements in the area are made; and
- **Not restrict consideration of alternatives** or foreclose potentially desirable options for other reasonably foreseeable transportation improvements in the same or linked corridors.

The Norfolk LRT Project satisfies the logical termini test by connecting one of the largest employment and activity centers in Hampton Roads on its western end and employment centers on its eastern end—the Eastern Virginia Medical Center complex, to downtown Norfolk, and then to a major new development site (Fort Norfolk/Atlantic City). The Eastern Virginia Medical Center complex is home to two major hospitals—Sentara Norfolk General and Children’s Hospital of the King’s Daughter—and a medical school, Eastern Virginia Medical School (EVMS). Norfolk General Hospital alone has more than 3,400 employees. EVMS adds an additional 1,100 employees and 650 students. The medical center complex has an acute parking problem causing it to be the only hospital in Hampton Roads that requires parking payment. The eastern end of the alignment is located near the intersection of Newtown Road and Kempsville Road. This area is located near the Interstate Corporate Center and Koger Office Park (Koger Center), a multi-building office park. Less than ½ mile from the station, along Kempsville Road, are the Sentara Leigh Memorial Hospital and the Interstate Commerce Center, a 425,000 square foot office park.

The Norfolk LRT is proposed to be part of a series of related light rail transit investments in the Hampton Roads Region. The Norfolk project has been designed to operate as the first segment in this regional system. As the first segment, it is necessary that the Norfolk LRT project contain all facilities that are necessary and reasonable to operate the segment if no other part of the system is completed. These facilities include a feeder bus system, a vehicle maintenance facility, a maintenance of way facility, and other buildings and staff necessary to support the Light Rail Transit system in Norfolk. The capital and operating costs of all of these is included in an estimate developed for this project. By including all of the elements of a future regional system while still maintaining a reasonable level of cost effectiveness, the Norfolk LRT project meets the independent utility test.

The third test, not restricting consideration of future alternatives, is also met by the proposed Norfolk LRT project. Its implementation would not preclude future completion of the other elements of the regional LRT system elements, and it is positioned to accommodate the potential juncture between alignments north to the Norfolk Navy Base or the airport and south to Chesapeake or Portsmouth.

## 1.2 Previous Planning Studies

Tidewater Regional Transit (TRT), the predecessor agency of HRT, completed several system planning studies that examined the feasibility of providing additional transit service in corridors around Hampton Roads. System planning studies include *Study of the Cost Effectiveness of Restoring Rail Passenger Service*, May 1986, and the *Rail Systems Analysis and Fixed Guideway Service Plan*, September 1991.

The *Study of the Cost Effectiveness of Restoring Rail Passenger Service* study determined that light rail transit (LRT) was a feasible alternative, particularly in the Norfolk-Virginia Beach Corridor.

The *Rail Systems Analysis and Fixed Guideway Plan* also looked at the larger planning context stating,

“South Hampton Roads must continue to aggressively pursue a balanced transportation system--an integrated system, of alternative modes working together to efficiently meet the diverse transportation needs of the growing population. A solely highway-reliant transportation system would not only provide higher levels of congestion constraining development, but more important, would limit the potential for a high quality of life in the region.”

The recommended transportation plan for South Hampton Roads derived from the *Rail Systems Analysis and Fixed Guideway Plan*, was to provide substantially improved bus transit service for the short term and LRT in the longer term. Bus service improvements would include utilizing HOV lanes on freeways, express bus service to major activity centers, and park and ride lots and transit centers to support the express bus service system improvements and regional ridesharing programs. Additionally, the *Transit Development Program* (TRT, July 1996) recommended an increase in service hours and service expansion within Norfolk, Virginia Beach, Chesapeake, Portsmouth, and Suffolk.

In response to the *Rail System Fixed Guideway Plan*, TRT initiated the *Norfolk-Virginia Beach Corridor Major Investment Study* (MIS) in 1995 to evaluate transit/transportation improvements in the 30-mile corridor extending from Virginia Beach to downtown Norfolk and the Norfolk Naval Base. The MIS utilized and built upon results from past planning efforts in evaluating the feasibility of implementing various transportation alternatives and documented the selection of a Locally Preferred Alternative (LPA). The locally preferred alternative, referred to in this document as the Preferred Alternative, consisted of an 18-mile light rail transit system between downtown Norfolk and the Virginia Beach Pavilion Convention Center, generally following the Norfolk-Southern Rail Road right-of-way. The Tidewater Transportation District Commission (TTDC) selected the Light Rail Transit Alternative as the LPA in May 1996.

Using the LPA selected from the MIS, TTDC commissioned a Draft and Final Environmental Impact Statement to examine the potential impacts, costs, and benefits of a Light Rail Transit system between Norfolk and Virginia Beach. The FEIS, completed in 2000, determined that the proposed system was both financially feasible and would not cause any significant environmental impacts to the corridor.

Following the completion of the FEIS, TTDC commissioned several planning studies to examine Light Rail Transit in other corridors in Hampton Roads. These studies included the Chesapeake LRT Corridor Alternative Analysis, the Peninsula Corridor AA/DEIS, various studies looking at transit to the Norfolk Naval Base, and the transit studies in the City of Portsmouth.

In addition to the various rail studies, the Virginia Department of Transportation (VDOT) recently completed the *Hampton Roads Crossing Major Investment Study* and *Draft Environmental Impact Study*. These studies specifically looked at regional system linkages and accessibility needs, acknowledging the importance of the transport of people, goods, and services between the Hampton Roads population areas as integral to the region's economy. In determining the transportation needs the study explored the multi-modal elements of highways, aviation facilities, waterways and port facilities, railroads, public transit, and bicycle and pedestrian facilities.

In September of 2001, HRT initiated a supplemental DEIS (SDEIS) for the Norfolk LRT project. The SDEIS was intended to update the cost, benefit, and impact analysis for an LRT project exclusively in the City of Norfolk. The SDEIS was completed in December 2002, and public hearings were held on January 29 and 30, 2003.

## 1.3 Study Area

The proposed Norfolk LRT project alignment passes through several distinct areas of Norfolk. On the western end, the alignment begins in an area primarily occupied by medical services. The alignment then passes through downtown Norfolk's Central Business District. On the east side of downtown, the alignment enters the parking lots of Harbor Park Stadium, skirts the edge of Norfolk State University (a historically black college) and enters the inner-ring suburbs of downtown Norfolk. These inner-ring suburbs are relatively high-density single family neighborhoods at approximately 10-12 dwelling units per acre. Past these residential suburbs, the alignment enters the Military Circle retail corridor and then the Newtown Road employment area. Both of these areas primarily contain office parks and other commercial buildings, with some residential neighborhoods. The alignment's eastern end terminates at the intersection of Newtown Road and Kempsville Road, near the Koger Center office park, Sentara Leigh Hospital, and the Interstate Corporate Park.

The study area land use patterns are generally consistent with those in the rest of the City of Norfolk. As shown in Table 1-1, Norfolk is more than 40% residential. Another 17% of Norfolk is comprised of public lands including the Naval Base and other military facilities. The remaining portion of Norfolk is a mix of retail, industrial, and institutional land uses.

**Table 1-1  
City of Norfolk Land Use Patterns, 2001**

<b>Land Use Type</b>	<b>Acres</b>	<b>Percent</b>
<b>TOTAL</b>	<b>28,820</b>	<b>100.0%</b>
Residential	11,821	41.0%
Single-family	9,148	31.7%
Multi-family	2,673	9.3%
Industrial	1,083	3.8%
Transportation/utilities	2,618	9.1%
Retail trade	1,215	4.2%
Wholesale trade	529	1.8%
Services/hotels	908	3.2%
Public	4,961	17.2%
Institutional/educational	1,731	6.0%
Recreation	1,545	5.4%
Vacant	2,407	8.4%
<b>Taxable land area</b>	<b>18,877</b>	<b>65.5%</b>
<b>Nontaxable land area</b>	<b>9,942</b>	<b>34.5%</b>

*Source: City of Norfolk Department of Planning, 2001*

### **1.3.1 Description of the Study Area**

#### **A. Population**

The population of the City of Norfolk has been steadily declining over the past 30 years. Since 1970, the city has lost nearly 70,000 people to its surrounding suburbs. Because of the city's historical connection to the Naval Station Norfolk and its associated ship yards, much of Norfolk's population and employment shifts can be explained by looking at government spending on defense. Between 1970 and 1980, the city lost population due to the military cut backs following the Vietnam War. During the 1980s, the population loss was slowed by increased government spending. During the 1990s, population loss accelerated again, as military spending was further reduced. As Table 1-2 indicates, the population in Norfolk is expected to rise by nearly 17,000 people between 2000 and 2020. Figure 1-2 shows the projected population change between 2000 and 2026 in each of the proposed station areas. This increase may be due to changes in Norfolk's perception in the region, its continuing economic redevelopment, and the diversification of its employment base.

**Table 1-2  
City of Norfolk  
Population Change**

	1970	1980	1990	2000	2020 (projected)
<b>Norfolk</b>	307,951	266,979	261,250	234,403	251,350
<i>Change</i>		(40,972)	(5,729)	(26,847)	16,947
<i>Percent Change</i>		(13.30%)	(2.15%)	(10.28%)	7.23%

Source: U.S. Census Bureau, Hampton Roads Planning District Commission (2000)

Note: The population of the City of Norfolk could increase additionally by an approximately 11,000 over the regionally accepted totals by 2030 if the LRT is constructed and the vacant land surrounding the station areas is redeveloped using transit supportive densities. See Norfolk Light Rail System, Alternative Land Use Forecast for additional information.

## B. Employment

The change in Norfolk employment base mirrors its population change, as shown in Table 1-2. Despite the rapid growth of other areas in Hampton Roads, Norfolk will continue to be the major employment center in the South Hampton Roads area over the next 20 years. In 2000, Norfolk accounted for nearly 24% of all jobs within the study area. Norfolk has been able to retain these jobs because of two major employment centers, Naval Station Norfolk and Norfolk's Central Business District (CBD). Downtown Norfolk, and other areas along the proposed alignment, are expected to have strong growth over the next 20 years. Figure 1-3 shows the change in station area employment between year 2000 and 2026. Even as new suburban centers in Chesapeake and Virginia Beach grow, Norfolk has been able to maintain its economic importance through growth policies that encourage a mix of uses including office, retail, entertainment, and academic.

**Table 1-3  
City of Norfolk  
Employment Change**

	1970	1980	1990	2000	2020 (projected)
Norfolk	211,278	230,199	251,046	225,297	257,010
Change		18,921	20,847	(25,749)	31,713
Percent Change		8.96%	9.06%	(10.26%)	14.08%

Source: U.S. Census Bureau, Hampton Roads Planning District Commission (2000)

Note: The employment base of the City of Norfolk could increase by an additional approximately 25,000 jobs over the regionally accepted totals by 2030 if the LRT is constructed and the vacant land surrounding the station areas is redeveloped using transit supportive densities. See Norfolk Light Rail System, Alternative Land Use Forecast for additional information.

Table 1-4 displays Norfolk's continued dependence on military spending for a significant portion of its economy. According to the U.S. Department of Commerce, there were nearly 60,000 military jobs in Norfolk in 1999, representing nearly 26% of all jobs in the city. However, there are nearly as many jobs in the service sector, 52,000 and half again as many in the retail sector, 24,000. This data shows the diversification of the Norfolk's economy and its potential to move away from dependence military spending and towards downtown service and retail positions.

**Table 1-4  
Full and Part-Time Employees by Major Industry by Place of Work, 1999**

	City of Norfolk			Hampton Roads MSA	
	Number	Percent	Percent of Regional Total	Number	Percent
Military	57,471	25.5%	52.70%	109,044	11.5%
Service	52,556	23.3%	19.75%	266,063	28.1%
Retail	23,684	10.5%	14.92%	158,785	16.7%
Federal civilian	15,332	6.8%	33.36%	45,964	4.8%
Transportation/utilities	13,529	6.0%	37.48%	36,098	3.8%
Local government	13,081	5.8%	17.17%	76,171	8.0%
Finance	12,897	5.7%	20.20%	63,857	6.7%
Manufacturing	12,829	5.7%	18.32%	70,009	7.4%
Wholesale	8,412	3.7%	27.34%	30,764	3.2%
Construction	7,600	3.4%	13.58%	55,967	5.9%
State government	6,915	3.1%	31.17%	22,184	2.3%
Other	991	0.4%	7.45%	13,304	1.4%
<b>TOTAL JOBS</b>	<b>225,297</b>	<b>100.0%</b>	<b>23.76%</b>	<b>948,210</b>	<b>100.0%</b>

*Source: U.S. Department of Commerce, Bureau of Economic Analysis*

### C. Transportation

The roadway network in the study area is a comprehensive system of urban interstates, major highways, arterial roadways and collector and local access streets. The demand for the roadways in this area is expected to increase significantly, as this region is projected to experience considerable development, population and employment growth over the next twenty years. In addition, demand on the transportation network is expected to grow significantly. The Hampton Roads Planning District Commission (HRPDC) forecasts the region's vehicle miles of travel (VMT) to increase at an annual rate of nearly 1.2% over the next 20 years while the number of lane miles is projected to grow by less than one percent over the same time period. And, according to a travel time study recently completed by HRPDC, 64% of the sample of point-to-point trips in the study- constituting over 1,100 miles- exhibited worse travel time in 2000 than in 1995.

The following section documents existing and projected traffic conditions, local and regional transit services and parking availability primarily in downtown Norfolk.

#### ***Streets and Highways***

Interstate 264 (I-264) is the major roadway connector in the study area. It runs east-to-west from near the Virginia Beach oceanfront to Portsmouth through downtown Norfolk. The remaining interstates, Interstate 64 (I-64), Interstate 464 (I-464), Interstate 564 (I-564), and Interstate 664 (I-664) create a beltway around downtown Norfolk. I-64 extends from the Hampton Roads Bridge Tunnel, which connects Hampton to Norfolk, through Norfolk, Virginia Beach and Chesapeake. I-664 also connects the southside and the Peninsula areas across the Monitor Merrimac Memorial Bridge Tunnel. Aside from I-264, the primary east-west roadways in the corridor are Virginia Beach Boulevard (US 58) and Northampton Boulevard (US 13). George Washington Highway (US 17) is another major roadway that connects the study area to North Carolina to the south, and Isle of Wight County to the west.

Traffic congestion is a major concern in the Norfolk LRT Corridor, especially along I-264. Between 1996 and 2002, vehicle trips increased between 10,000 and 18,000 vehicles per day at six locations along I-264 within the Norfolk LRT study area. As described by the Hampton Roads Regional Model, between 2000 and 2026, the VMT on I-264 is projected to further increase by an average of 15 percent. This would result in as many as 50,000 additional vehicles per day, if unconstrained by capacity. Engineering and environmental issues prevent lane additions to I-264 and the Hampton Roads Planning District Commission's (HRPDC) Twenty Year Long Range Transportation Plan (LRTP) does not include opportunities for expansion.

Virginia Beach Boulevard and Brambleton Avenue are the main east-west arterial routes located in the Norfolk LRT Study Area. Like I-264, these arterial routes have similar capacity restraints. Half of the locations along both Virginia Beach Boulevard and Brambleton Avenue are projected to be operating near capacity in the Year 2006 (HRPDC, 2001). The projections for the Year 2026 show traffic growth at every location along these arterials. Projections indicate that along Brambleton Avenue, the existing roadway capacity will be attained by the Year 2006; and, along Virginia Beach Boulevard, the existing roadway capacity will be approaching gridlock by the Year 2006.

The consequences of gridlock along I-264, Virginia Beach Boulevard and Brambleton Avenue are significant: if, as projected, a breakdown of the transportation system served by the major arterials does occur, additional traffic will spill over onto parallel routes potentially causing a system-wide breakdown thereby producing increased travel times and safety concerns for Norfolk residents, employees and visitors.

Table 1-5 shows the planned and programmed improvements to the streets and highways in the study area between 2004 and 2026.

**Table 1-5  
Proposed Improvements to Streets and Highways in Norfolk  
(Between 2004 and 2026)**

<b>Facility</b>	<b>Proposed Improvement</b>
Hampton Roads Bridge Tunnel	Bridge Deck Rehabilitation and Tunnel Ceiling Replacement
I-264	Interchange improvements I-64 westbound ramp to I-264 eastbound
Virginia Beach Boulevard	Upgrade to 8 lanes from Military Circle Mall entrance to Newtown Road
Virginia Beach Boulevard	Upgrade to 6 lanes from Jett Street to Briar Hill Road
Military Highway	Upgrade to 8 lanes between Lowery Road and Northampton Blvd.
Boush Street	Reconstruction of 4 lanes from City Hall Avenue to Brambleton Avenue (includes Duke Street to Boush Street)
City of Norfolk Attucks Historic Pedestrian Walkway	Pedestrian walkway along Church Street, Henry Street, Virginia Beach Boulevard, and Princess Anne Road
Elizabeth River Pedestrian/Bicycle Trail	Construction of a pedestrian/bicycle trail in the Atlantic City section of southwest Norfolk
<b>Intersection Improvements</b>	
Intersection improvement of Ballentine Blvd. and Virginia Beach Blvd.	
Intersection improvement of Brambleton Avenue and St. Paul's Boulevard	

*Source: Compiled by URS Corp., September 2004 from The Hampton Roads 2026 Regional Transportation Plan*

These improvements are focused on relieving congestion and improving safety on area highways.

### ***Existing and Future Traffic Conditions***

Traffic conditions are measured in a scale from A through F, known as a Level of Service (LOS). LOS A represents free flowing traffic. LOS F is achieved when the volume of traffic on a road or at an intersection is equal to or greater than its capacity. LOS F represents a traffic jam, with little or no traffic movement. A 2000 study of traffic conditions in the City of Norfolk found that nearly 90% of all lane miles in the city are operating at acceptable levels (Level of Service D or better). This equates to more than 88% of the peak hour traffic operating in acceptable conditions. However, by 2026, despite the planned improvements listed above, more than 40% of peak hour traffic will travel in LOS D or worse. Roadways that are projected to be operating at LOS D or worse in the study area are shown in Figure 1-4.

### ***Transit***

HRT is the provider of public transportation services in the City of Norfolk and the Hampton Roads region. HRT operates 53 fixed routes and shuttle services across the region. HRT also operates the NET— Norfolk's downtown electric circulator buses, various paratransit and dial-a-ride services, and the Elizabeth River Ferry. In addition to these services, HRT is in the planning stages of a regional light rail transit system. When fully implemented, the regional system will provide fixed guideway transit to most of the major cities (Hampton, Newport News, Norfolk, Chesapeake, Portsmouth, etc.) in the region. Figure 1-5 shows the Hampton Roads regional rail transit system as it is currently planned.

### ***Parking***

Another concern within the Norfolk LRT Corridor, especially in the downtown core area, is the lack of available parking. New developments have reduced the amount of surface parking spaces, so new parking structures have to be developed as replacements. These parking structures are more costly and take more time to build than surface parking spaces. Financial and engineering constraints also limit the ability of the City to construct new parking structures. Local property managers and developers have indicated that the cost and supply of downtown parking is a significant deterrent to marketing downtown Norfolk to major new office tenants.

The City of Norfolk currently owns and operates 12 parking structures and 16 surface lots mostly in the downtown area. Combined with private garages and on-street parking, there are approximately 28,000 parking spaces in downtown Norfolk. According to a comprehensive parking study compiled for the City, parking occupancy is expected to increase from the current rate of 81 percent to 86 percent by 2010. The study indicated that there will be a localized perceived deficit of more than 1,100 short-term parking spaces in the downtown area by 2005. This deficit is primarily focused around the Granby Street corridor, the Government Center, and Waterside.

A 2004 financial prospectus for new parking revenue bonds, performed for the City of Norfolk as an update to the previous study, found that there were 5,915 total parking spaces in the downtown Norfolk core area. This included 1,147 general parking spaces, 4,268 monthly reserved parking spaces, and 500 restricted parking spaces (for Norfolk Southern employees only).

Of that number, the study found that in the peak period 5,125 were occupied. This level of utilization (87%) far exceeds industry standards for cities the size of Norfolk as well as the projections for the previous analysis. The utilization goal for most parking facilities is approximately 80 to 85 percent. Once a facility exceeds 85 percent the public perception is that the facility is full.

Beyond the identified current deficit and capacity constraints, development in the downtown Norfolk core is continuing at a rapid pace. New office towers, hotels, restaurants, and residential buildings are being constructed and additional developments are slated in the near term future. While many of these developments have some component of parking on-site, none of them will provide a sufficient amount to cover their parking generation. This additional demand will most likely be satisfied in Norfolk's city-owned parking structures which are already close to or at capacity. Engineering and fiscal challenges will likely limit the construction of new city owned garages in the future. In addition, City zoning policy does not require on-site parking and as property values continue to rise, developers will be increasingly unlikely to want to use any portion of their sites as low-value parking.

The increased growth and limited availability of parking downtown suggest the need to reexamine the area's transit service. In many communities, a transit system has reduced the demand for parking spaces, especially within downtown areas. Most of this parking deficit in Norfolk is located within a short walk of proposed LRT stations.

All across the Hampton Roads region, traffic and transportation problems are increasingly on people's minds. The region's newspaper, *The Virginian Pilot*, has continually reported that a large percentage of residents in Hampton Roads believe that traffic and transportation are the biggest problems facing the region. The following factors affect the demand for improved transit services in the Norfolk LRT Corridor:

- Traffic is already congested. According to HRPDC and the City of Norfolk, between 1995 and 2002, daily traffic volumes rose more than 16 percent along I-264 and Virginia Beach Boulevard in the Norfolk LRT Corridor. The traffic increases cause congestion and breakdowns in the system. This traffic growth is expected to continue into the near future as well as in the long term. Additionally, no major improvements in the transportation system in this corridor are expected in the next 20 years.
- Bus transit service is prevalent in the corridor and is well used. It is a sign of strength of this transit corridor that its 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 Norfolk LRT Corridor is a two way all day transit corridor with heavy ridership now and a demand for more transit services in the future.
- Further rapid growth is predicted. The corridor is densely populated and the number of people living in the area is expected to grow. In addition, employment growth has been occurring and is expected to continue.
- Lack of parking limits growth. New housing and commercial projects continue to be built throughout the area to house all the growth in land use. Further redevelopment in downtown Norfolk would cause additional pressure on already limited parking, reducing opportunity for additional redevelopment.
- There is limited ability to expand either the roadway or the bus system in the corridor to meet demand because of the physical constraints in this developed area. The social and community impacts would be unacceptable.

## 1.4 Goals and Objectives

The development of the Purpose and Need statement is an important factor in determining the range of alternatives in the FEIS process. The material presented in this Chapter gives an overall understanding of the population, economic development, and transportation trends in the City of Norfolk and the study corridor. The goals presented here for this FEIS have been adapted and modified from the 2000 Norfolk to Virginia Beach FEIS goals and objectives.

## 1.4.1 Norfolk LRT Goals and Objectives

**Issue:** *Traffic congestion in Norfolk is projected to significantly increase in the future and thereby impact the quality of life for its residents.*

A study completed by the Hampton Roads Planning District Commission in January 2000 concluded that without a light rail transit line operating in 2020, more than 18% of Norfolk's lane miles— accounting for 26% of the traffic— will be functioning at or below Level Of Service (LOS) E during the PM peak period. LOS E describes roadways that have virtually no gaps in the traffic flow. Minor incidents result in extensive delays and congestion. LOS F describes a roadway where traffic volume has exceeded capacity. In the study area, portions of Newtown Road, Kempsville Road, Brambleton Avenue, Waterside Avenue, Main Street, and Duke Street are expected to operate at LOS E or F in 2020 without LRT.

### 1. Goal: 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-vehicle households.

The proposed project will link many of the major activity centers in Norfolk. The proposed LRT system will connect two major regional retail complexes (MacArthur Center and Military Circle Mall), three hospitals (Sentara Leigh, Sentara Norfolk General, Children's Hospital of the King's Daughters), three educational institutions (Norfolk State University, Tidewater Community College, and Eastern Virginia Medical School), a minor league ball park (Harbor Park), and downtown office buildings and cultural attractions. In addition, the LRT will create linkages to existing residential neighborhoods in Norfolk.

### 2. Goal: 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.

**Issue:** *The current transportation system may not be able to support increased development in the future.*

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 945,000 square-foot MacArthur Center urban marketplace opened reestablishing Norfolk as a high-end retail center. The City of Norfolk was also a recent recipient of a \$35 million HOPE VI grant to rehabilitate the Robert Village and Bowling Green public housing projects. The grant will provide housing for 948 families and demolish 767 deteriorated public housing apartments. Downtown, several new luxury apartment and condominium developments are taking advantage of Norfolk's revitalization. All of this new development has increased demand for parking in the downtown area, which currently has utilization levels of approximately 87% capacity.

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

**Objectives:**

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

**4. Goal: 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.

***Issue: Increased air pollution: The Hampton Roads region is an ozone non-attainment area.***

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.

**5. Goal: 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 standard.
- 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.

# 1.5 Planning Context

## 1.5.1 The Planning and Project Development Process

The development of any federally funded urban transit improvement is required by the FTA to follow a five-step process. This process is especially important if the project is to consist of the construction of a fixed guideway facility, such as a light rail transit system. Accordingly, the scope and the content of this study were developed, in part, to meet federal requirements and to maintain eligibility for federal assistance of any implementation project.

The current federal project development process for major transit investments involves five steps:

1. System Planning;
2. Draft EIS;
3. Preliminary Engineering/Final EIS;
4. Final Design; and
5. Construction.

Overall system planning for the Norfolk Light Rail Project was completed as part of the *Rail Systems Analysis and Fixed Guideway Plan* in 1991. Following that, a Draft and Final Environmental Impact Statement was completed for the 18-mile Norfolk to Virginia Beach corridor in 1999 and 2000. As stated previously, the Environmental Impact Statement focuses on changes to the alignment since the completion of the Norfolk to Virginia Beach FEIS. The present study is designed to provide local decision-makers sufficient information with which to select a preferred alignment, and to give FTA the information it requires to undertake the next step in the project development process. The Norfolk LRT Project Supplemental DEIS was completed in January 2003. Currently, this project is in the Preliminary Engineering/Final EIS step of the federal project development process.

The following major activities in steps 2 (Draft EIS) and 3 (Preliminary Engineering/Final EIS) of the five-step process are presented below:

- **Scoping** - the Scoping process defines the options that will be assessed in the EIS, outlines the impacts to be considered, and establishes the goals and objectives that will guide the evaluation of alternatives. The Scoping Summary Report for this project was completed in April 2001.
- **Draft Environmental Impact Statement (DEIS)** - the DEIS documents the impacts of each option under consideration. The DEIS is available to the public. Comments may be made in writing or at a public hearing.
- **Supplemental Draft Environmental Impact Statement (SDEIS)** - the SDEIS augments the DEIS and documents additional technical analyses of impacts that are associated with a substantial change in alignment from the original DEIS.
- **Final Environmental Impact Statement (FEIS)** - the FEIS addresses all comments received on the SDEIS and reports any additional analyses completed. The FEIS is also the vehicle by which commitments will be made to mitigate any potential adverse environmental impacts. The FTA makes an adequacy decision on the Final Environmental Impact Statement and files a Record of Decision.

- **Record of Decision (ROD)** - The ROD is issued a minimum of 30 days after the EPA Federal Register Notice for the FEIS is published. The ROD summarizes important issues from the FEIS and contains the decision that NEPA requirements have been satisfied for a particular project.

At the completion of the SDEIS/FEIS process, the project can move into further stages of design and eventual construction if funding is available.

## 1.6 Public Involvement Program Summary

The purpose of the Public Involvement Program was to inform the public and reviewing agencies that a SDEIS was being prepared, to present information about the project to the public and interested parties, and to receive input about the options under consideration and the environmental disciplines to be evaluated. The Public Involvement Plan for the Norfolk LRT project was designed to ensure ample opportunity for involvement from all sectors of the population, including historically underserved populations. The legal requirements for the SDEIS included two public Scoping meetings and four interagency Scoping meetings. Two public hearings were also conducted on January 29th and 30th, 2003. In addition to the legal requirements, other specific techniques included informational meetings, a project telephone hotline, a web site, informational brochures, press releases, media briefings and individual meetings.

Publications were designed to provide current information, report study status, and announce study findings.

- Information Sheets - Short information sheets that respond to frequently asked questions (FAQs) were developed and distributed.
- Web site - A web page, updated with the most recent project information was provided. Visitors to the web site ([www.hrtransit.org](http://www.hrtransit.org)) were encouraged to e-mail their comments and inquiries.
- Hotline - A dedicated telephone line (757-222-6136) is available to citizens with questions or comments.

Advisory committees were utilized to review project related information and to advise the study team on the presentation of information to the public. Three advisory committees were developed for this project: the Steering Committee, the Technical Advisory Committee, and the Public Involvement Committee (see Chapter 21.0 Public Involvement).

## 1.7 Role of the EIS in Project Development

The Environmental Impact Statement (EIS) is an important step in the project development process mandated by the National Environmental Policy Act (NEPA) of 1969, as amended, as well as Commonwealth of Virginia regulations. The EIS is a full disclosure document that provides information on the evaluation of reasonable alternatives and the assessment of transportation and environmental impacts for each of the identified alternatives. The required circulation and review procedures assist the public participation process and should result in comments that help guide the decision-making process.

Similarly, the identification, examination, and assessment of alternatives are also required by federal and state regulations. Assessment of environmental impacts of the alignment alternatives serve to identify the type and severity of environmental consequences leading to or supporting the selection of a Locally Preferred Alternative (LPA) and possibly a Minimum Operable Segment (MOS). Mitigation strategies for unavoidable impacts are identified in the FEIS. These are refined in subsequent project phases, together with estimates of the costs and effectiveness of such mitigation measures.