

Connecting the City

Norfolk sits at the crossroads of land, water, and bridges—a regional hub where freight, rail, highways, and transit converge. For many residents, though, navigating the city is not seamless. Barriers like at-grade rail crossings, limited transit access, and flood-prone corridors can make everyday travel challenging and unpredictable. Essential infrastructure, from roads to bike lanes to broadband, must keep pace with a city that is growing and changing.

To become a truly connected city, Norfolk must stitch its neighborhoods together with safe, equitable, and climate-resilient mobility options. That means building on recent progress—from an expanded bike network to modernized bus service—to create a multimodal system that works for residents of all ages and abilities. It means aligning transportation with land use through transit-oriented development, building a network of trails, and ensuring ease of connectivity through active travel between neighborhoods and mobility hubs. It means linking people to the places that matter—schools, jobs, parks, healthcare, and gathering spaces, through a network that is reliable, safe, and welcoming.

Virginia's only light rail system, historic bridge, rail and streetcar rights-of-way, and miles of waterfront all offer unique opportunities to reimagine how people might move and how places could better connect. Protecting and enhancing Norfolk's critical utilities—clean water, efficient energy, and fast broadband—must be part of this vision, ensuring that the systems people rely on daily are as resilient and accessible as the streets they travel.

A city that is easier to navigate is also a city where opportunity is easier to reach, especially for those historically left out.

With thoughtful investment, Norfolk can strengthen its internal connections, bridge its divides, and cement its role as a resilient, accessible hub of the Hampton Roads region.

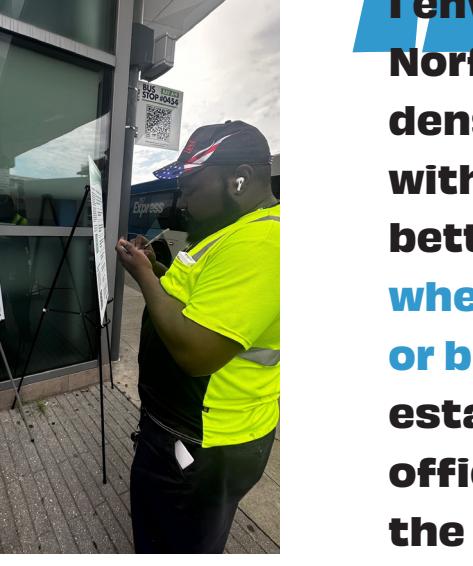
Norfolk will be more accessible via public transit and more connected to other cities in the region.

— Norfolk resident, Workshop #1, October 2023



Connecting the City

COMMUNITY VISION



I envision the future Norfolk as increasingly dense and vibrant with more housing and better connectivity - where people can walk or bike to neighborhood establishments, their office, and parts of the city.

— Norfolk resident, Phase 1 Engagement



What We Heard:

Norfolk residents envision a future where getting around their city is safe, seamless, and sustainable.

Public transit should be reliable and affordable, with expanded light rail and mass transit, and a robust bus network connecting every neighborhood. Walkable, bike-friendly streets should make it easy to get around without a car, reducing congestion and promoting healthier lifestyles.

Smart transportation planning should emphasize green infrastructure and connectivity, linking communities through safer sidewalks, designated bike lanes, and well-maintained trails. Enhanced transit accessibility could provide efficient connections to key destinations, including the airport, universities, and regional hubs.

Norfolk has the potential to be a leader in multimodal transportation, ensuring people of all ages and abilities can navigate the city with ease. Thoughtful investments in mobility could create a well-connected, inclusive, and forward-thinking city that meets the needs of future generations.



By 2050, Norfolk will be more accessible via public transit, and more connected to other cities in the region.

— Norfolk resident, Phase 2 Engagement



Goals:

GOAL 1:

Enhance Multi-Modal Transportation throughout the City

GOAL 2:

Improve Safety and Reliability along Corridors

GOAL 3:

Improve Intracity Travel and Connections

GOAL 4:

Protect and Enhance Transportation and Utility Infrastructure

GOAL 5:

Support Regional, National, and International Connections

Big Ideas:

! Promote, encourage, and **incentivize transit-oriented development (TOD)**.

! Reduce the number of and **mitigate the impacts of blocked railroad crossings** within the city.

! Foster a safe **pedestrian experience at crossings and beneath overpasses** through urban design strategies such as street design changes, public art, inviting lighting, and landscape improvements.

! **Expand high-capacity transit** within the city, especially to major nodes like Naval Station Norfolk and the Military Circle area.

! Implement the **expanded bicycle network**.

! Align transportation infrastructure and facilities with **accessible housing and community services** for elderly and disabled residents.

! **Develop greenways** and link additional trails and pathways to the Elizabeth River Trail to create a complete system.

! Seek funding to actively reverse historic injustices caused by highways and **reconnect Norfolk's neighborhoods**.

! Use **micro transit** to fill in the gaps in the transit system.

! Explore the feasibility of **reusing former rail lines** and former or underutilized rights-of-way for trails and connections.

! Raise and **reinforce critical access roads** and evacuation routes.

! Support the implementation of the City's **Electric Vehicle Charging Plan**.

! **Bury overhead infrastructure** in areas of low flood risk.

! **Advocate for the completion of a holistic regional transportation network** of sidewalks, bike paths, rail, complete streets, transit stops, etc.

! **Expand passenger rail service and intercity bus service** between Norfolk to both in-state and out-of-state locations.

! Construct regional infrastructure that **connects the Peninsula to the Southside**.

! Advocate for a **cohesive wayfinding and signage system** across all modes of regional travel.

GOAL 1:

Enhance Multi-Modal Transportation throughout the City

Enhance Norfolk's existing multi-modal transportation network, and foster a culture that encourages multi-modal travel.

Improving local-scale mobility is essential for seamlessly getting residents and visitors to their daily destinations. By incentivizing commercial and residential development near transit stops and stations, coordinating land use planning, and enhancing public transit experiences through passenger amenities, we can create a more connected and sustainable community and reduce greenhouse gas emissions. Clearly marked entry points, expanded bike networks, and safe cycling programs will further support this shift, making multi-modal travel an integral part of Norfolk's culture.



1. Promote, encourage, and incentivize **transit-oriented development (TOD)** by coordinating municipal transportation, housing, and the Future Land Use Plan to create a more connected and efficient built environment and reduce greenhouse gas emissions.

○ **Transit-Oriented Development (TOD):** A planning and design strategy that focuses on creating vibrant, walkable communities centered around public transportation hubs. TOD typically includes mixed-use developments with residential, commercial, and recreational spaces, all within easy reach of transit stations, making it convenient for people to live, work, and play without needing to drive.

a. Prioritize TOD near public transit stops and stations and within the Community Mixed-Use, Corridor Mixed-Use, and Regional Activity Center place types, as well as Transit Supportive Areas.

2. Continue local outreach, educational campaigns, partnerships and community efforts with local advocacy organizations, as outlined in Norfolk's **Vision Zero strategy**, to raise awareness about the benefits of multi-modal transportation and its role in increasing safety and mobility for all road users.

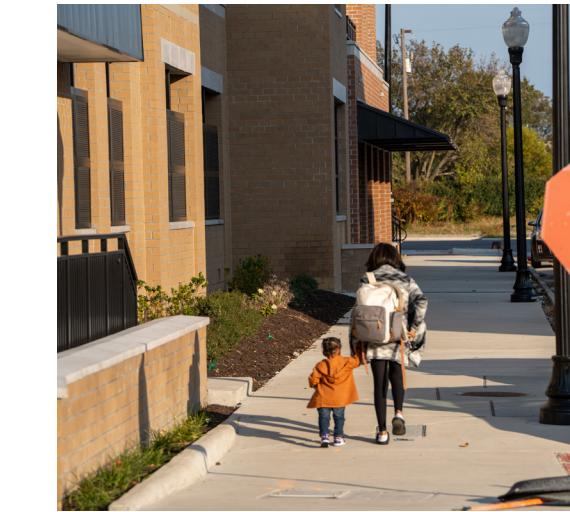
○ **A Vision Zero Strategy** aims to eliminate traffic fatalities and severe injuries while ensuring safe, healthy, and equitable mobility for all. It involves collaboration among stakeholders, prioritizing equity, managing traffic speeds, and setting clear timelines for achieving zero traffic deaths and serious injuries.

a. Continue to promote the federal initiative Safe Routes to School Programs as outlined in the Vision Zero Strategies.

b. Offer programs to teach safe cycling practices and maintenance skills and promote cycling events such as bike-to-work days and community rides.

c. Continue to regularly gather feedback from multimodal users through surveys and events.

d. Consider the establishment of a grant program to support community efforts that encourage bicycling as a mode of transportation.



(WRT)

3. Use **interim design strategies** to improve roadways and public spaces in the near-term and at a lower cost.

- a. Install short-term test improvements (e.g., **parklets**, striping to test shorter pedestrian crossings, etc.) to support a “proof of concept” approach to long-term construction projects or ideas and test new designs and amenities.

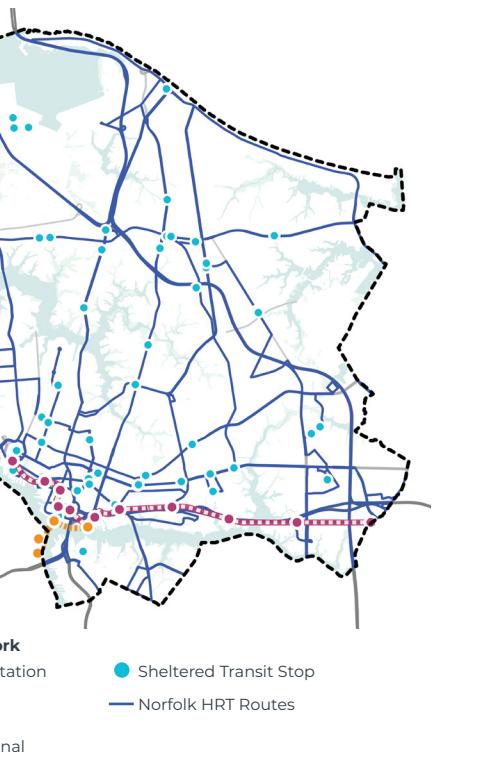
Parklets are public seating platforms that transform parking spaces into community spaces, featuring seating, greenery, bike racks, among other features.

4. Co-locate mobility options

wherever possible, using the Future Land Use Plan for guidance (transit stops/stations, Lime bike/scooter stations) and work to provide seating, signage, and lighting.

5. Explore the creation of **car-free zones** in busy commercial areas to enhance safety and encourage travel for all non-vehicular users.

- 6. Support **access to major entry points at key destinations** (e.g., Norfolk International Airport, the Port of Virginia, and Downtown Norfolk) by creating clearly marked and inviting entry points, landmarks, and welcome and directional signage to guide people to multi-modal transportation options.



7. Continue to enhance existing transit stops to support the experience of riding public transit in coordination with Hampton Roads Transit.

BEST PRACTICES:

LOS ANGELES SIDEWALK AND TRANSIT AMENITIES PROGRAM, LOS ANGELES, CA

Los Angeles' Sidewalk and Transit Amenities Program (STAP) aims to install or upgrade bus shelters and shade structures to address the city's equity and heat indexes. Shelters include real-time bus tracking, a digital art program, smart lighting technology, bench seating, and safety features.



(Michael Juarez)



(City of Norfolk)

8. Provide **free, covered, and secure bicycle parking** at key nodes throughout the city.

9. Explore the establishment of a **curb space management** program within the public realm that considers pedestrian and transit mobility, access for people, and access for goods, amenities, and storage.

Curb space management involves strategically allocating curb space to maximize community benefits, enhance safety, and support economic goals. It balances the needs of all roadway users, including drivers, rideshare services, pedestrians, emergency services, transit, local businesses, and streetscape.

10. Continue to support **Transportation Demand Management (TDM)** efforts that **encourage multi-modal transportation use** and reduce barriers to mobility and transportation.

Transportation Demand Management involves strategies to optimize transportation systems by reducing or redistributing travel demand, promoting alternatives like public transit, biking, and carpooling.

Connecting the City / Goal 1

11. Identify **potential funding sources for improvements** and implement the recommendations for current projects and studies of Department of Transportation, based on funding availability.

12. Improve **access to bicycles, helmets, and bike locks**, especially for lower-income families through subsidies or repair programs.

13. Work with the Department of Parks and Recreation to create **learn-to-ride and safe biking classes**.



BEST PRACTICES:

SAFE AMBASSADOR PROGRAM, CHICAGO, IL

Chicago's Department of Transportation operates a SAFE Ambassador program (Streets Are For Everybody) that aims to provide direct education for residents through safety presentations, trainings, workshops, and learn to ride classes.



GOAL 2: **Improve Safety and Reliability along Corridors**

Improve safety and reliability along Norfolk's key corridors serving automobiles, trucks, and rail.

Norfolk's key corridors are vital for the movement of people and goods. Creating a resilient and connected transportation network can accommodate all modes of travel while also prioritizing safety and efficiency. By improving freight routes, redesigning streets, and implementing curb space management initiatives, we can enhance safety, reduce congestion, and support efficient transportation.

1. Implement safer crossings at high volume intersections for all modes of transportation.

a. Reference National Association of City Transportation Official's Urban Street Design Guide for high volume intersection design recommendations.

2. Continue to champion Vision Zero strategies under the three overarching themes: improve data collection & evaluation, create safe streets for all users, and foster a culture of safety.

3. Support the implementation of the Department of Transportation's ***Safety Action Plan***, which aims to reduce roadway fatalities and serious injuries to zero, improve safety for all road users, enhance the safety of vulnerable road users, such as pedestrians, bicyclists,

and older adults, and foster a collaborative approach to roadway safety among local governments, transportation agencies, and community stakeholders.

○ ***Safety Action Plan:*** aims to provide accessible and equitable multimodal transportation options throughout the city, promoting a safer, more inclusive, and connected transportation network for all.

4. Optimize freight movement and minimize impacts on urban mobility.

a. Develop freight and truck efficiency plans/programs to improve the efficiency of freight movement, such as off-hour deliveries and dedicated freight lanes.

b. Explore measures to minimize noise from freight and truck traffic.

c. Designate and improve critical vehicle freight routes. Coordinate with Virginia's statewide transportation plan, VTrans, to address freight system trends and needs.

d. Create a city-oriented Designated Truck Route Map that expands the Virginia Department of Transportation's regional map and reduces congestion on main corridors.

5. Support local, state, and national efforts to reduce the number of and mitigate the impacts of **blocked railroad crossings** within the city.

6. Develop zoning standards that **protect land uses in proximity to rail facilities**, including setbacks between buildings and the rail right-of-way, safety barriers, fencing, and noise mitigation.

7. Continue the implementation of the **Street Light Replacement Program** and determine the best method to mitigate brightness and light intrusion.

8. Explore urban design strategies, such as street design changes, public art, inviting lighting, and landscape improvements, to enhance safety and comfort for all modes of transportation; better accommodate truck and bus turn movements along key corridors while continuing to allow safe pedestrian and bicyclist movement, with a particular focus on the **pedestrian experience at crossings and beneath overpasses**.



Figure 12: Street Typologies

Source: City of Norfolk/VDOT

VDOT FUNCTIONAL CLASSIFICATIONS:

Interstate	These roadways are also part of the National Highway System.
Other Freeways and Expressways	
Other Principal Arterials	
Minor Arterial	
Minor Arterials	
Major Collector	
Minor Collector	
Local	
Corridors of Statewide Significance	
City limits	
Military	
Seaport/Airport	
Water	
Wetlands	

GOAL 3:

Improve Intracity Travel and Connections

Improve transportation options of all modes to seamlessly connect neighborhood nodes and improve local-scale mobility options at the *first and last mile*, to get residents and visitors to their daily destinations.

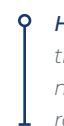
Norfolk's transportation network should be inclusive, efficient, and accessible to all. By improving infrastructure, expanding transit options, and ensuring safe and reliable connections, we can support the safety, connectedness, and prosperity of our communities. Creating a citywide comprehensive multimodal network can link key destinations, reconnect divided neighborhoods, and enhance the overall transit experience for everyone.

Additionally, neighborhoods thrive when they are well-connected and accessible. By adding pedestrian and bicycle pathways that respect the unique character of each neighborhood, we can create safer, more vibrant communities, fostering a sense of community and improving overall quality of life.

First mile and last mile refers to the initial and final segments of a journey within a transportation network, encompassing the distance from a person's starting point to the nearest public transportation hub and from the hub to their final destination.



1. Support efforts to **expand high-capacity transit** within the city, especially to major nodes like Naval Station Norfolk and the Military Circle area, and use the Future Land Use Plan for additional guidance.



High-capacity transit refers to public transportation systems designed to efficiently move large numbers of passengers, such as bus rapid transit, light rail, and commuter rail.



2. Continue to **implement the expanded bicycle network** in alignment with the City of Norfolk Bicycle and Pedestrian Strategic Plan to enhance connectivity within Norfolk.



Northside Park Bike Trail (City of Norfolk)

Connecting the City / Goal 3

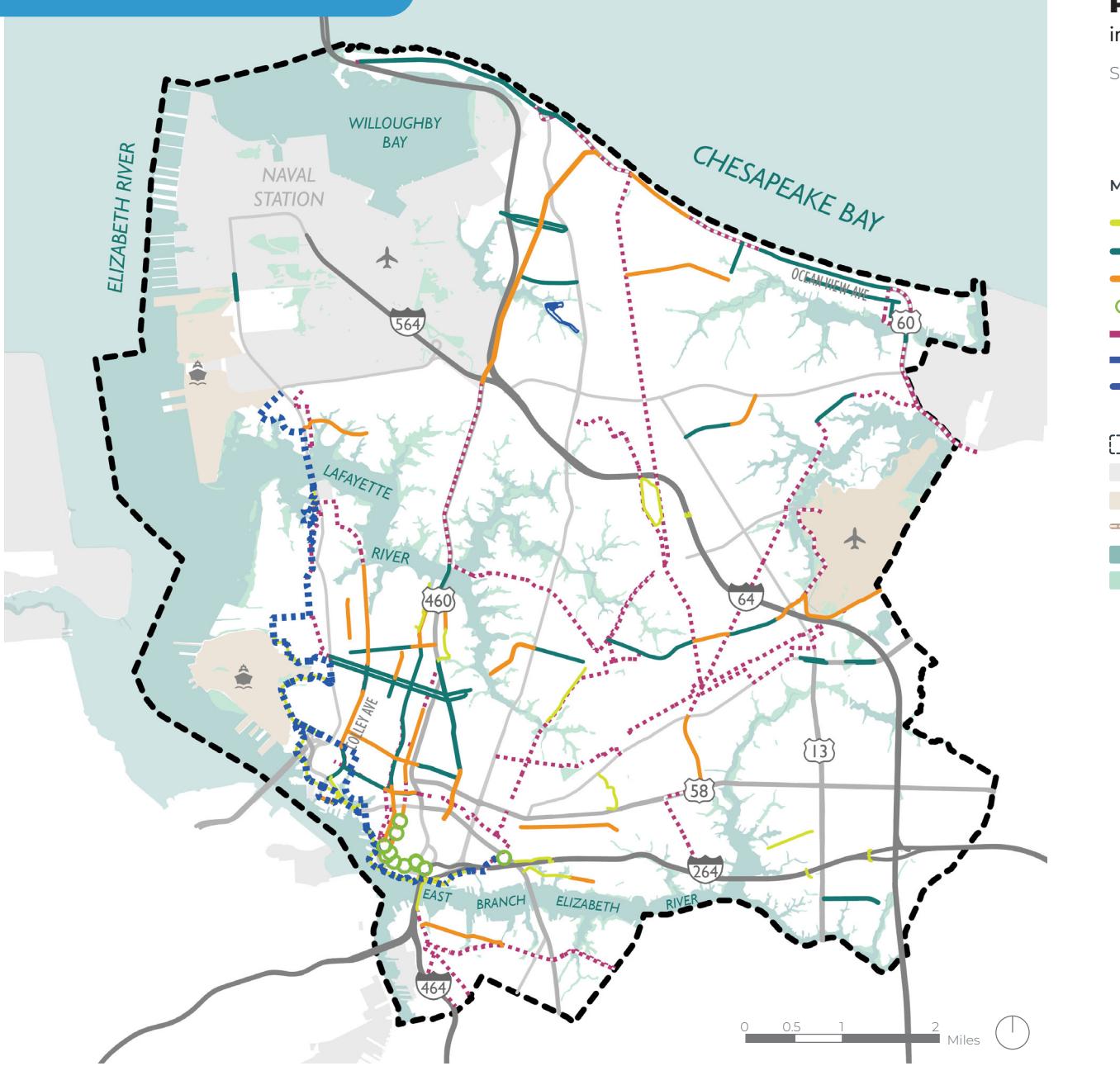


Figure 13: Existing and planned bike infrastructure

Source: City of Norfolk; HRTPO

3. Determine infrastructure needs and improvements, including significant new, expanded, or relocated facilities and roadways, in alignment with the Commonwealth Transportation Board's *Statewide Transportation Plan and Six-Year Improvement Plan* and support implementation efforts.

- Statewide Transportation Plan or VTrans is a long-range multimodal strategy that guides Virginia's transportation investments and policies over a 20-25 year horizon.
- Six-Year Improvement Plan is Virginia's official transportation funding plan, developed and approved by the Commonwealth Transportation Board. It allocates public funds over a six year period to prioritize and advance transportation projects across the state.

Figure 14: List of VDOT Six Year Improvement Plan Projects

Source: City of Norfolk.

PROJECT ID	PROJECT NAME/ DESCRIPTION	2045 LRTP	PROJECT COST (in Thousands)
125602	I-64/I-264 Interchange Phase IIIA	Yes	\$17,016
120863	Hampton Roads Express Lanes, Segment 1B	Yes	\$41,688
18968	R000 - I-564 Intermodal Connector	N/A	\$20,451
119637	Hampton Roads Express Lanes, Segment 1A	Yes	\$19,631
57048	#SMART18 - RTE 264 Interchange Improvements 64WB Ramp To 264EB	N/A	\$17,617
123154	Air Terminal Interchange-Intermodal Connector Eastern	Yes	\$109,040
118642	St. Paul's Roadway Improvements - Phase 2	Yes	\$2,643
59175	Air Terminal Interchange - Intermodal Connector - Western	Yes	\$24,469
110321	I-64 Express Lanes-Segment I	Yes	\$18,946
117138	St. Paul's Roadway Improvements (Phase I)	N/A	\$1,376
115244	#SMART20 Virginia Beach Blvd Widening George St To Newtown	Yes	\$15,701
123166	#SMART24 Virginia Beach Blvd - George Street To Winburne Ln	Yes	\$9,268
106693	I-64/I-264 Interchange-Phase IIIA	Yes	\$7,500
117116	Westminster Avenue Reconstruction	N/A	\$7,450
120908	Chesapeake Blvd & Sheppard Ave Intersection Improvements	N/A	\$3,466
123053	#SMART24 Brambleton Ave/Tidewater Dr Intersection Improvement	N/A	\$1,951
111788	#SMART18 - I-264 W Off-Ramp At Ballentine Boulevard	N/A	\$2,154
113201	Little Creek Rd/Shore Drive Intersection Improvements	N/A	\$1,886
115236	#SMART20 Terminal Blvd/Diven St Intersection Improvements	N/A	\$1,733
111019	#SMART18 - Brambleton Ave/Park Ave Intersection Improvements	N/A	\$1,339
115424	Southside Bike Lane Network	N/A	\$1,016
T30088	#SMART26 Project Pipeline HR04 Military Highway	N/A	\$4,507
123169	#SMART24 Ocean View Ave Pedestrian Improvements	N/A	\$2,473
120912	Tidewater Drive Improvements At Lakewood	N/A	\$3,671
123172	#SMART24 Little Creek Road Pedestrian Improvements	N/A	\$3,61

PROJECT ID	PROJECT NAME/ DESCRIPTION	2045 LRTP	PROJECT COST (in Thousands)
123165	#SMART24 Chesapeake Boulevard Pedestrian Improvements	N/A	\$4,500
124683	#SMART24 Chesapeake Blvd Ped Improvements-Consolidated	N/A	\$16,688
123639	26th Street/Lafayette Boulevard Lane Repurposing	N/A	\$2,109
123635	Military Highway At Poplar Hall Shared Use Path	N/A	\$9,246
123638	Downtown Norfolk Market St St. Paul's Comprehensive Study	N/A	\$2,500
125359	Intersection Improvements And Pedestrian Crossing -Norfolk	N/A	\$6,417
109572	Norfolk Bus Shelters And Pedestrian Improvements	N/A	\$1,292
119276	Brambleton Avenue Bridge Rehabilitation	N/A	\$4,000
120917	Hampton Blvd & Magnolia Intersection Improvements	N/A	\$2,969
115379	Newtown Road Corridor Study	N/A	\$250
T30091	#SMART26 Project Pipeline Hr-23-06 Monticello Ave Spot Improvements	N/A	\$7,568
123054	#SMART24 Southside Bicycle And Pedestrian Improvements	N/A	\$4,623
119210	#SMART22 Centralized Transit Signal Priority	N/A	\$1,992
119229	#SMART22 Railroad Crossing Message Signs	N/A	\$5,828

Figure 14: List of VDOT Six Year Improvement Plan Projects

Source: City of Norfolk.

4. Support the implementation and advancement of Norfolk's Committed and Candidate Projects within the Hampton Roads Transportation Planning Organization (HRTPO)'s Long Range Transportation Plan (LRTP) (Figure 16).

Long Range Transportation Plan is a long-range regional blueprint developed by Hampton Roads Transportation Planning Organization (HRTPO), to help guide long term, multimodal transportation investments that promote system efficiency while maximizing the use of scarce transportation resources.



PROJECT ID	PROJECT NAME/ DESCRIPTION	PROJECT TYPE	VDOT SYIP	In current fiscally constrained 2045 LRTP	PROJECT COST (in Millions)
2045-50	Hampton Roads Express Lane Network	Highway Regional Priority		Yes	\$993.0
2045-2	I-64 Widening Including Hampton Roads Bridge-Tunnel	Highway Regional Priority		Yes	\$3322.0
2045-4	I-64/I-264 Interchange - Phase II	Highway Regional Priority		Yes	\$32.0
2045-301	I-64/I-264 Interchange - Phase III/ IIIA	Highway Regional Priority interchange	Yes	Yes	\$525.0
2045-270	St. Paul's Project - Phase II (extension of Freemason Street)	Roadway	Yes	Yes	\$21.7
2045-199	Virginia Beach Blvd	Highway - Primary	Yes	Yes	\$9.3
2045-199	Virginia Beach Blvd	Roadway	Yes	Yes	\$15.7
2045-316	Air Terminal Interchange	Roadway Interchange	Yes	Yes	\$186.9
2045-318	I-264/ Ballentine Blvd Diverging Diamond Interchange	Roadway Interchange		Yes	\$10.8
2045-603	Hampton Boulevard at Terminal Boulevard	Intermodal - Freight		Yes	\$210.1
2045-520	Hampton Roads Regional Transit System - 757 Express	Transit Regional Priority		Yes	\$551.9
2045-504	Ferry Service Expansion Study	Transit- Maritime Transit		Yes (Study)	\$22
2045-513	Southside Ferry Service Expansion Study	Transit- Maritime Transit		Yes (Study)	N/A
2045-516	High Capacity Transit Extension to Greenbrier Area Study	Transit- Fixed Guideway Transit		Yes (Study)	N/A
2045-518	Naval Station Norfolk Transit Extension	Transit- Fixed Guideway Transit		Yes (Study)	N/A
2045-707	South Hampton Roads Trail - Suffolk to Virginia Beach Oceanfront	Regional Active Transportation		Yes	\$139.4
2045-708	Virginia Beach Trail (part of the regional South Hampton Roads Trail)	Regional Active Transportation		Yes (part of SHRT)	N/A
2045-732	Bike Lanes on Granby Street	Active Transportation		Yes	\$0.3
2045-701	Bike Lanes on Indian River Rd	Active Transportation		N/A	N/A
2045-702	Bike Lanes on Indian River Rd	Active Transportation		N/A	N/A
2045-703	E. Little Creek Road Bike Path	Active Transportation		Yes	\$0.3
2045-735	Military Highway Bike Access	Active Transportation		Yes	\$7.3
2045-51	Regional Connectors Study	Planned Regional Study-Roadway		Yes (Study)	\$7

Figure 16: List of 2045 Long Range Transportation Plan Projects

Source: City of Norfolk.

d. Develop a process to involve the private sector in implementing complete streets infrastructure.

e. Survey residents of varying ages and abilities to understand challenges in the current system.

5. Support **ADA accessibility** by working to identify and remove obstacles.

o **ADA accessibility** refers to the design and implementation of environments, products, and services to ensure they are usable by people with disabilities, in compliance with the Americans with Disabilities Act (ADA).

a. Connect with advocacy groups and local residents who identify as part of the disability community to understand existing challenges.

6. Align transportation infrastructure and facilities with accessible housing and community services to **enhance the integration of older adults** and people with disabilities.

a. Incorporate Complete Streets principles into all plans, manuals, checklists, decision-trees, rules, regulations, and programs as appropriate.

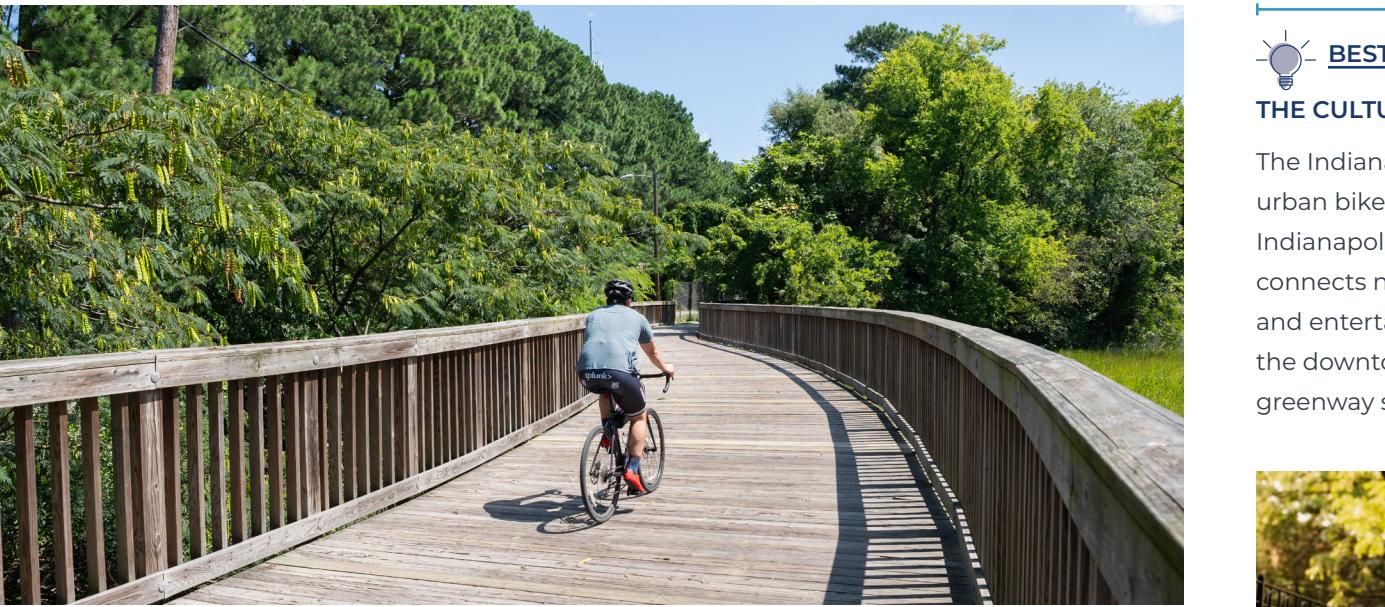
b. Develop and maintain an inventory of sidewalks, street lanes and widths, bicycle facilities, and crosswalks.

c. Actively seek funds necessary for improvements in the right-of-way in support of this policy.

7. Design streets and associated infrastructure in alignment with the City's **Complete Streets Policy** and develop, operate and maintain an integrated, connected network of streets that are safe and accessible for residents of all backgrounds and abilities.

8. Improve sidewalk conditions and connections between residential areas and public spaces, major corridors, schools, medical facilities, parks, and transit stops.

9. Support the implementation of the **Citywide Trails Master Plan** to enhance connectivity, walkability, and access across the city.



Elizabeth River Trail (City of Norfolk)

10. Develop **greenways** and link additional trails and pathways to the Elizabeth River Trail to create a complete system.

Greenways are linear parks or corridors designed for recreational use and non-motorized transportation, such as walking, biking, and jogging. They often connect natural areas, parks, and urban spaces, providing safe, scenic routes that promote environmental conservation and enhance community well-being.

11. Connect meaningful and accessible destinations, including parks, schools, employers, shopping, hospitals, trails, to cultural and economic hubs, such as the Norfolk International Airport, Port of Virginia, Virginia Zoo, and Botanical Gardens.



(Michelle Craig)

BEST PRACTICES:

THE CULTURAL TRAIL, INDIANAPOLIS, IN

The Indianapolis Cultural Trail is an 8-mile urban bike and pedestrian path in downtown Indianapolis, Indiana. The Trail seamlessly connects neighborhoods, cultural districts and entertainment amenities while serving as the downtown hub for central Indiana's vast greenway system.

12. Seek funding to actively reverse historical injustices caused by highway and other infrastructure that divided neighborhoods and reconnect these areas.

13. Use **micro transit to fill in the gaps in the transit system and ensure access to bike and scooter-sharing options is equitable throughout the city.**

Micro transit is a flexible transportation service that uses small, multi-passenger vehicles to provide on-demand or scheduled rides. Unlike traditional public transit with fixed routes, microtransit adjusts its routes and schedules based on real-time demand, offering a more personalized and efficient travel option.

BEST PRACTICES:

CHICAGO DIVVY FOR THE ENTIRE CITY, CHICAGO, IL

The City of Chicago negotiated with Lyft, the owner of the bikeshare system Divvy, to ensure equitable micro transit access for all residents. The contract has established stations in all 50 Wards, expanded the system with e-bikes, and created affordable options for residents on limited incomes.

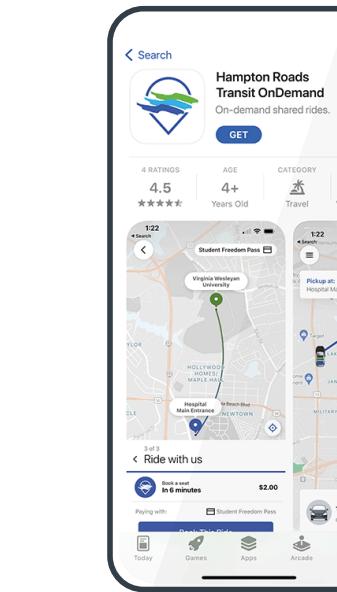


(David Powe)

LOCAL SUCCESS:

HAMPTON ROADS TRANSIT, ONDEMAND RIDESHARE SERVICE

HRT operates its OnDemand ridehare service, currently available in Newport News and Virginia Beach, which provides flexible, on-demand trips in areas with limited fixed-route service, such as HRT buses and The Tide light rail. OnDemand helps significantly with the first or last leg of a trip, before or after using a fixed transit route.



(Via)

Connecting the City / Goal 3

14. Continue to explore the feasibility of **reusing former rail lines** and former or underutilized rights-of-way for trails and connections.

15. Identify and analyze Norfolk's **historic bridge** connections and determine whether to restore them in order to support multimodal travel and reconnect neighborhoods.

16. Explore opportunities to integrate emerging transportation technologies to help bridge gaps in the transportation network and improve accessibility.



GOAL 4:**Protect and Enhance Transportation and Utility Infrastructure**

Build, expand, and maintain public utilities and infrastructure to support the cultural and economic needs of a diverse and growing city. Ensure resilience across modes of travel and movement of goods, to smooth potential future shocks and stresses.

Norfolk's mobility and utility networks must be robust and adaptable to withstand future challenges. In anticipation of potential future risks, we can plan and build a comprehensive network to accommodate all modes of travel while prioritizing resilience and efficiency.

Infrastructure development should respond to and anticipate the needs of our residents and businesses, today and through 2050. Utilities

like clean drinking water, efficient electricity, and fast broadband internet provide critical services to all stakeholders, no matter where they live and work. These utility systems should be supported, expanded, and maintained where the City of Norfolk needs them most.



1. Raise and reinforce critical access roads and evacuation routes, as determined by the Department of Transportation, Department of Public Works, Office of Resilience, and Department of Emergency Management.

2. Create a flood street network map highlighting streets that are more resilient and less prone to flooding; identify gaps of access in the map and potential mitigation strategies.

3. Develop a strategic plan for flood mitigation improvements at key underpasses.

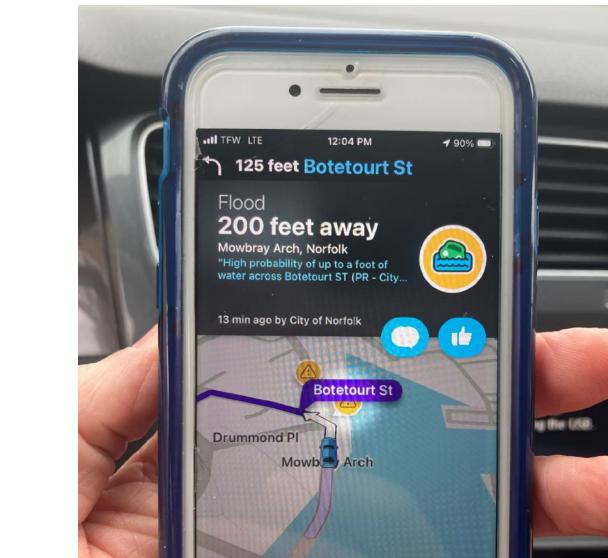


(WRT)

4. Use technology and signage to provide residents and drivers with information about alternative modes of transportation during extreme weather events, train-crossing events, bridge lifts, and other frequently recurring incidents; indicate where crossing may not be possible using alternative modes during flood events.

**LOCAL SUCCESS:****FLOODMAP INTEGRATION WITH WAZE IN NORFOLK, VA**

Funded as a winner of the RISE Urban Mobility Resilience Challenge, FloodMap launched a forecast flooding technology integration with the Waze app. Tidal, riverine, and rainfall data are layered in a geographic information system and sent to Waze users in real time.



5. Integrate flooding risks into transportation asset life cycle and/or transportation project planning processes.

6. Continue to provide quality public utility services that meet current and future needs of residents and businesses.

a. Continue the implementation of the long-term infrastructure improvement plan to ensure regular maintenance and improvement of utilities.

b. Coordinate with utility partners to maintain infrastructure and evaluate future requirements.

c. Monitor services such as the drinking water system, electricity, natural gas, and communications systems to ensure reliable output that serves the city.

d. Continue support of Hampton Roads Sanitation District improvements to the wastewater collection and treatment system and monitor for safety.

7. Support the implementation of the City's Electric Vehicle Charging Plan.

a. Use the Highest Scoring Block Groups: Level 2 and DCFC Maps to implement charging infrastructure in areas of highest need.

- b. Electrify the City's fleet of vehicles.
- c. Establish partnerships for EV charging at municipal sites.
- d. Promote EV charging at workplaces and multi-family homes.



Moore's Bridges Water Treatment Facility (City of Norfolk)

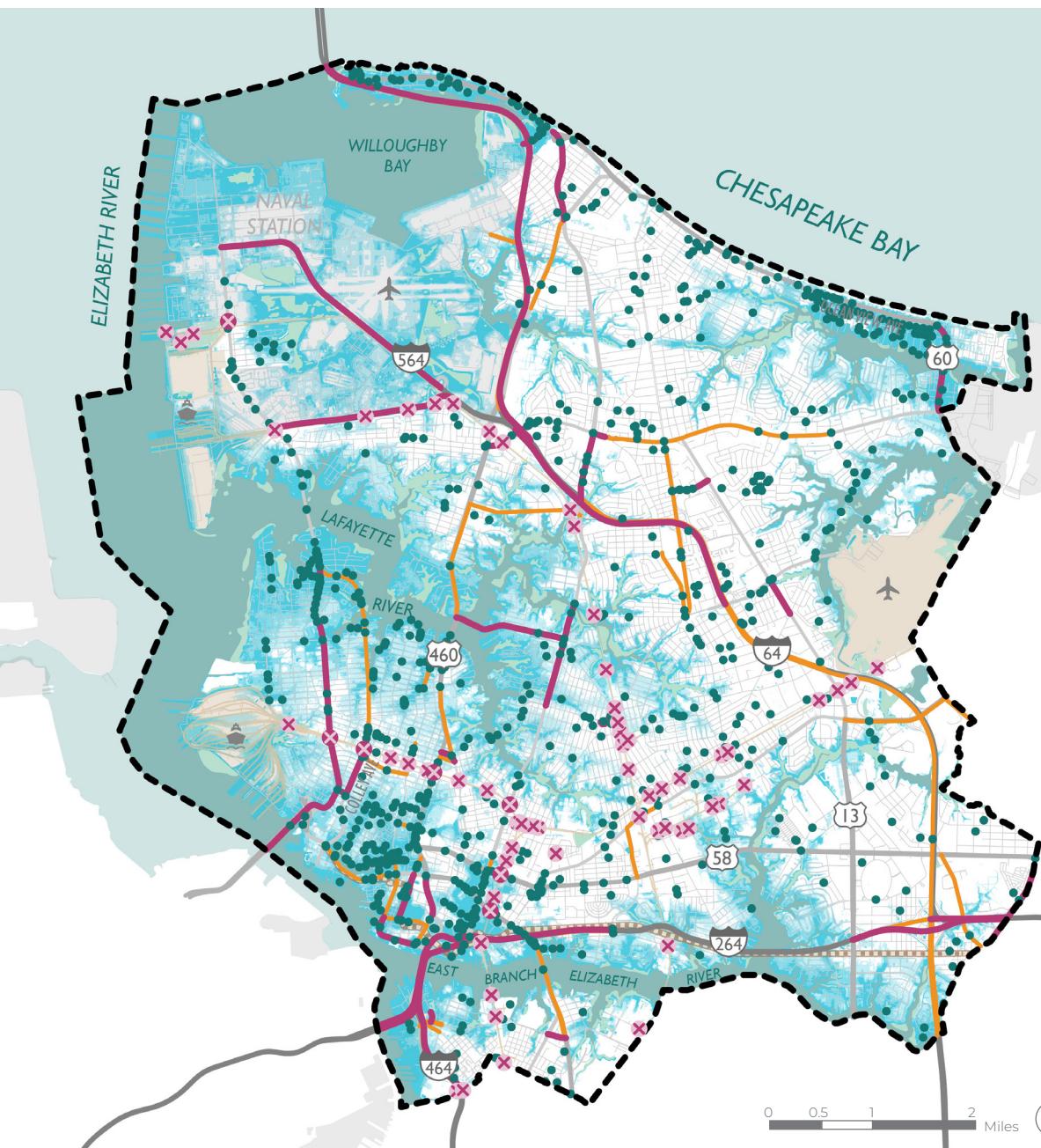


Figure 17: Infrastructure and flooding barriers to transportation systems

Source: City of Norfolk; US NOAA; Federal Railroad Administration; Virginia DOT

INFRASTRUCTURE BARRIERS

- ✖ Railroad Grade Crossings
- ✖ Railroad Over Crossings

HISTORIC FLOOD INCIDENTS

- Flooded Street or Underpass

ROAD CONGESTION

- Congested
- Most Congested

100 YEAR STORM INUNDATION 200

- 2050 1% probability extreme storm, 7.9 ft
- 2080 1% probability extreme storm, 9.3 ft
- 2100 1% probability extreme storm, 10.5 ft

CITY LIMITS

- Military
- Seaport/Airport
- Light rail
- Water
- Wetlands

e. Streamline or modify permitting and zoning regulations to encourage and incentivize local investment, continuing to build and expand the city's EV charging network.

f. Assess EV charging in high-risk flood areas for reliability and redundancy.

g. Integrate EV charging with renewable energy and energy storage.

h. Install EV chargers on evacuation routes and integrate EV charging into City emergency communications protocols.

i. Establish guidance for ROW charging.



EV Charging (WRT)

8. Expand broadband access, reliability, and speed to bridge Norfolk's remaining digital divide in households and community hubs.

a. Leverage opportunities to connect new infrastructure to the **Southside Fiber Ring**.

o **Southside Fiber Ring:** is a 119-mile, 288-strand fiber-optic backbone network developed by the Southside Network Authority (SNA), a regional partnership formed in 2019 by the cities of Chesapeake, Norfolk, Portsmouth, Suffolk, and Virginia Beach in Virginia. Its primary goal is to enhance internet connectivity across the Southside Hampton Roads region by providing an open-access infrastructure that fosters competition among internet service providers (ISPs), thereby improving service quality and affordability for residents and businesses.

b. Create and expand strong public hotspots in public facilities, such as parks, schools, and libraries.

c. Increase public awareness of hotspot coverage through PSA campaigns and GIS mapping.



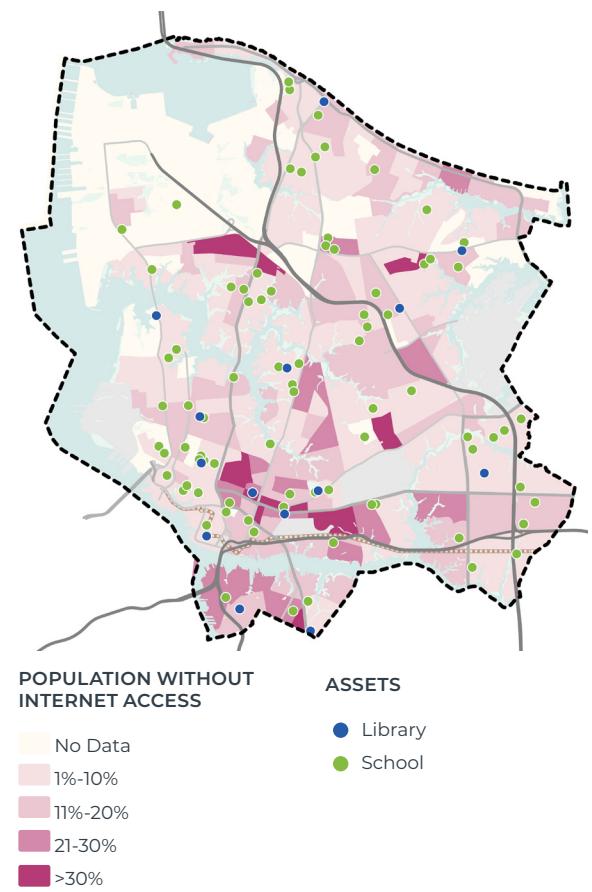
LinkNYC (CNN)

BEST PRACTICES:

LINKNYC, NEW YORK CITY NY

The City of New York successfully expanded broadband access in underserved communities with kiosks in public areas providing Wi-Fi, charging stations, emergency services, and public address.

d. Raise awareness of existing broadband assistance programs and support the expansion of new programs.



e. Create a "dig-once" policy to promote the installation of conduit for carrying fiber optic cable whenever trenches are opened, or during road work or capital construction.

9. Work with broadband providers to ensure that **infrastructure will be sufficient to meet future needs of residents and businesses through 2050.**



Park Place Library Branch (City of Norfolk)

10. In areas of low flood risk, identify and implement opportunities to **bury overhead infrastructure.**

GOAL 5: **Support Regional, National, and International Connections**

Strengthen the regional transportation system to reduce dependence on car travel through efficient and reliable alternatives.

Norfolk's regional transit system should provide efficient, reliable, and accessible alternatives to cars. Enhancing the transportation network, supporting high-capacity transit, and ensuring seamless transitions between modes can help us create a resilient and connected Hampton Roads for Norfolk and all our neighbors.

1. Continue to study and advocate for implementation of **high-capacity transit** expansions connecting Norfolk to the larger region.



Norfolk Amtrak Station (City of Norfolk)

2. Advocate for the completion of a holistic **regional transportation network** (sidewalks, bike paths, trails, complete streets, transit stops, etc.) to enhance redundancy and resilience across the region.

3. Support the **expansion of passenger rail service** and intercity bus service between Norfolk to both in-state and out-of-state locations.

4. Support efforts (e.g., HRTPO's Regional Connectors Study) to study and construct regional infrastructure that **connects the Peninsula to the Southside**, improving congestion relief, economic vitality, resiliency, accessibility, and quality of life.

6. Support the Virginia Port Authority's master planning efforts for Norfolk International Terminals, while also working to ensure that the overall impacts of **port operations on adjacent communities** are mitigated.

7. Support the implementation and advancement of **regional Committed and Candidate Projects** that impact Norfolk within the LRTP, the state Six-Year Improvement Program (SYP), and Regional Priority Projects within the Hampton Roads Transportation Accountability Commission (HRTAC)'s six-year funding program.

8. Enhance existing *mobility hubs* (e.g., Downtown Transit Center) and implement new hubs to improve connectivity, focusing on accessibility and functionality, ensuring that they are designed to accommodate future mobility needs and technologies as they emerge.

Mobility hubs: Centralized locations that integrate various transportation options, such as public transit, bike-sharing, car-sharing, and rideshare services, to provide seamless and efficient travel connections. These hubs aim to enhance accessibility, reduce reliance on private vehicles, and promote sustainable urban mobility.

9. Advocate for a cohesive *wayfinding and signage system* across all modes of regional travel (e.g., Amtrak, public transit, and trails).



(City of Norfolk)

10. Continue to support the use of *Transportation Demand Management* strategies and programs, such as ridesharing, telecommuting, and staggered work hours, to increase the efficiency of existing regional transportation systems.

11. Support efforts to study and conceptualize an *Unmanned Autonomous Systems (UxS) route/* corridor network within Norfolk and the greater region to improve the transport of goods, services, and travelers, utilizing air, ground, and maritime unmanned systems.

12. Identify and evaluate new funding opportunities and support updates to funding mechanisms that **encourage and incentivize regional public transit.**

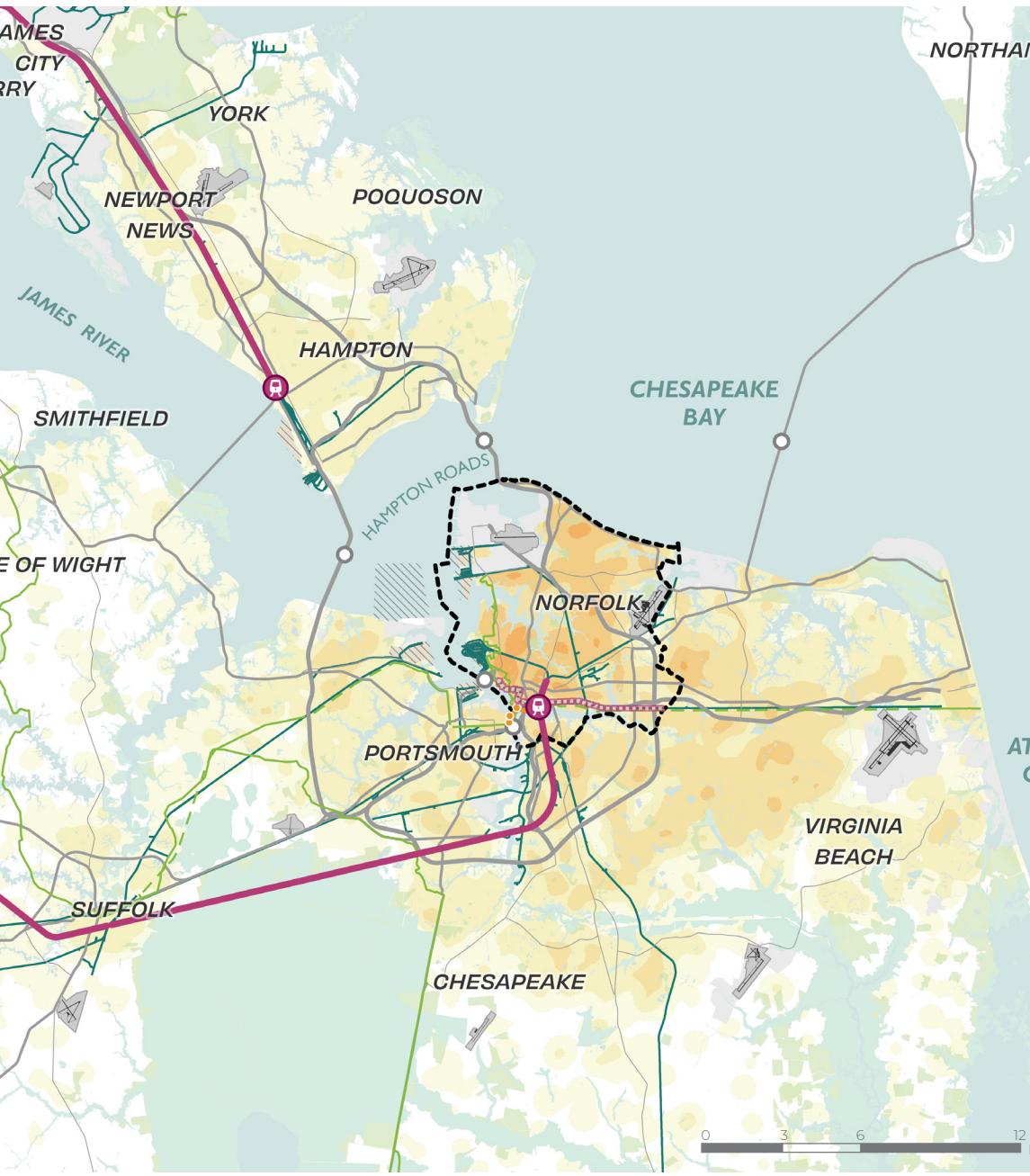


Figure 8: Hampton Roads regional connectivity

Source: City of Norfolk; US Census Bureau, On the Map, 2010; ESRI; RUP

Connecting the City: Putting Actions in Place

Becoming a truly connected city means stitching together Norfolk's full range of transportation and infrastructure investments—from expanding light rail and bus service to building safe, accessible sidewalks, trails, and bike networks. These improvements are not just about mobility, but also equity, access, and resilience. Prioritizing multimodal centers and mixed-use corridors ensures that more residents live near daily essentials, with safe, sustainable options to move through the city and region.

This requires a coordinated push to align flood mitigation with transit upgrades, revive key bridge and trail connections, reimagine public space at multimodal hubs, and prioritize underserved neighborhoods. Norfolk has the tools and momentum to connect our communities and support a stronger, more inclusive region.



(City of Norfolk)

Where in the city could
these ideas go?

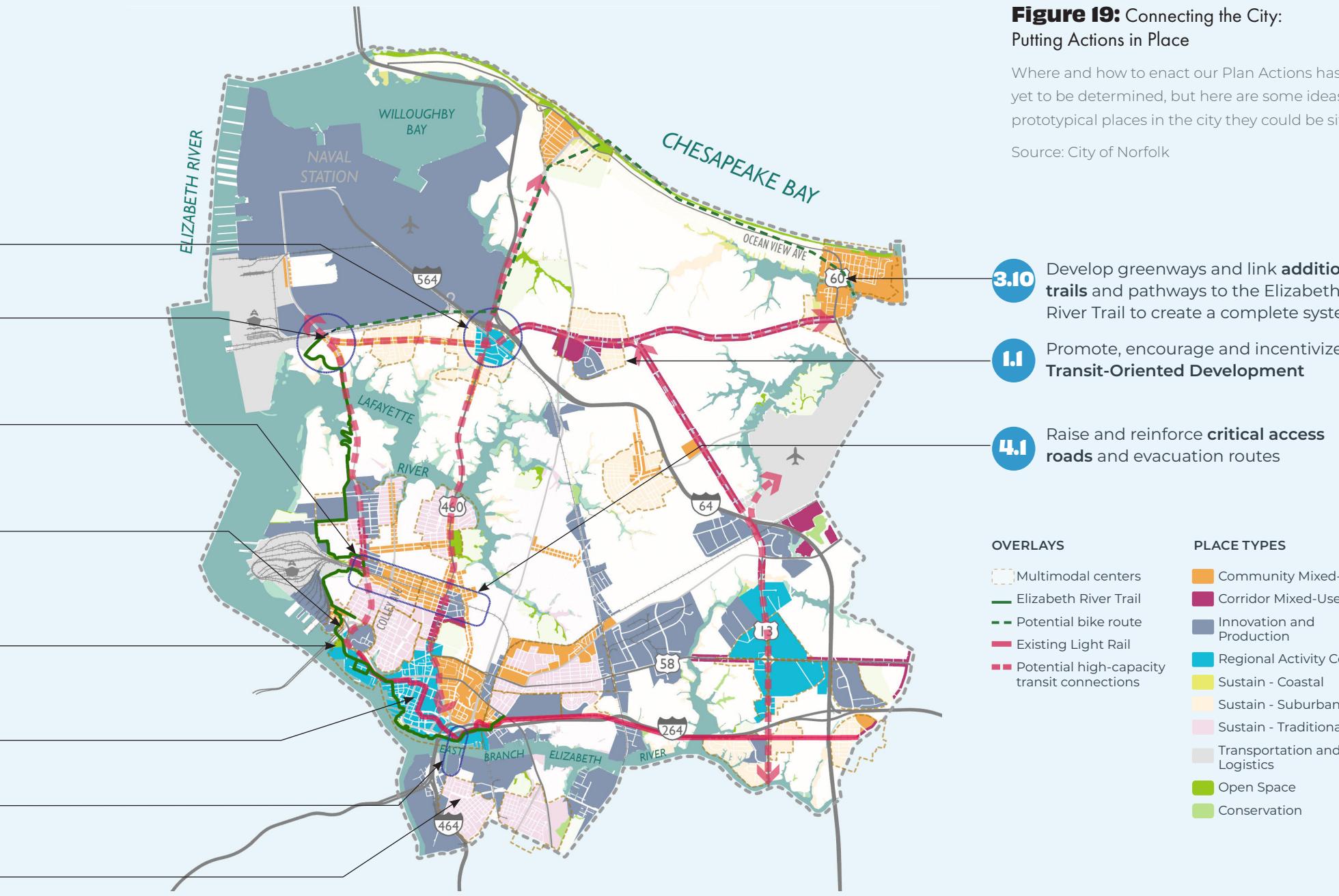


Figure 19: Connecting the City:
Putting Actions in Place

Where and how to enact our Plan Actions has yet to be determined, but here are some ideas of prototypical places in the city they could be in.

Source: City of Norfolk

3.10 Develop greenways and link **additional trails** and pathways to the Elizabeth River Trail to create a complete system

1.1 Promote, encourage and incentivize **Transit-Oriented Development**

4.1 Raise and reinforce **critical access roads** and evacuation routes

PLACE TYPES

- Community Mixed-Use
- Corridor Mixed-Use
- Innovation and Production
- Regional Activity Center
- Sustainable Coastal
- Sustainable Suburban
- Sustainable Traditional
- Transportation and Logistics
- Open Space
- Conservation