

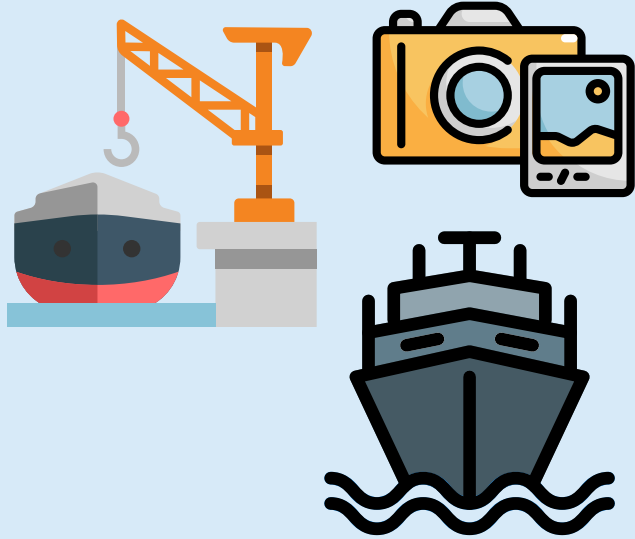
Hampton Roads **LONG-RANGE TRANSPORTATION PLAN**

**2024 FEDERAL QUADRENNIAL CERTIFICATION REVIEW
AUGUST 14, 2024**

DALE M. STITH, HRTPO PRINCIPAL TRANSPORTATION PLANNER

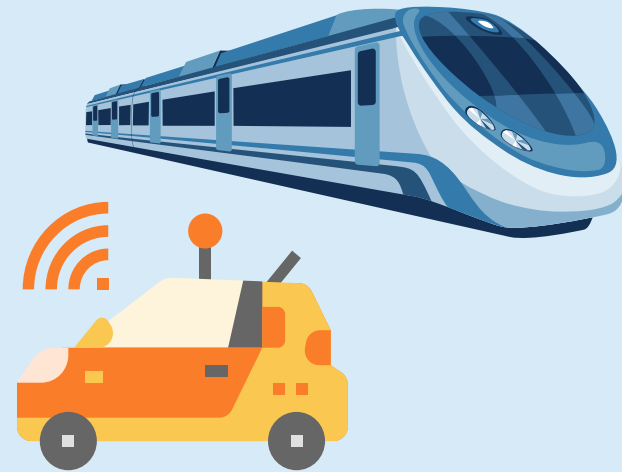


HRTPO LRTP Planning Considerations



Regional Economic Drivers

- Military
- Port
- Tourism
- Off-Shore Wind
- Fiber Ring/Trans-Atlantic Data Cables



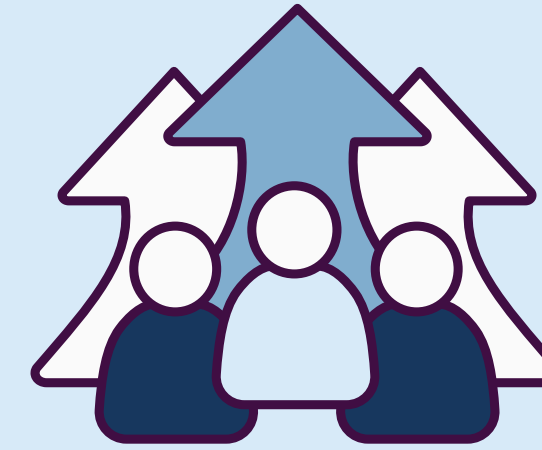
Multimodal Connectivity

- Transit (traditional and high-capacity)
- Passenger Rail
- Bike/Pedestrian
- Microtransit and Micromobility
- Connected and Automated Vehicles



Resiliency Considerations

- Sea Level Rise
- Storm Surge
- Coastal Resiliency
- Recurrent Flooding



Demographic Considerations

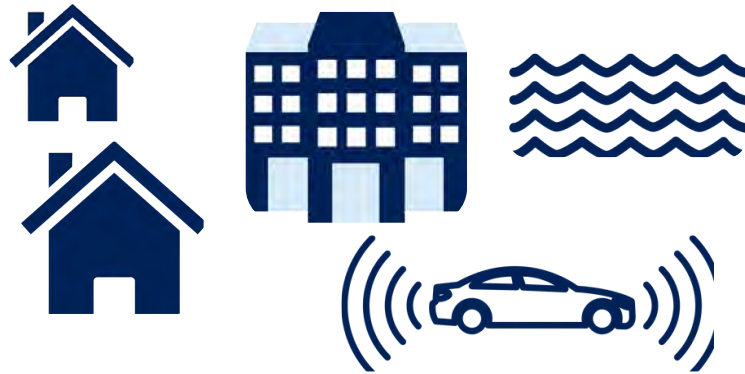
- Aging Population
- Alternate Growth Scenarios
- Affordable Housing
- Equity



Funding

- Federal
- State
- Regional
- Local

HRTPO LRTP Approach



EXPLORATORY SCENARIO PLANNING

- Prepare for future uncertainty
- Candidate projects evaluated across all scenarios to identify most robust projects



PROJECT PRIORITIZATION TOOL

- Objective, data driven methodology
- Performance-based approach
- Used to select projects for LRTP and TIP



RESILIENCY AND VULNERABILITY PLANNING

- Evaluate potential impacts of multiple Sea Level Rise and storm surge flooding scenarios



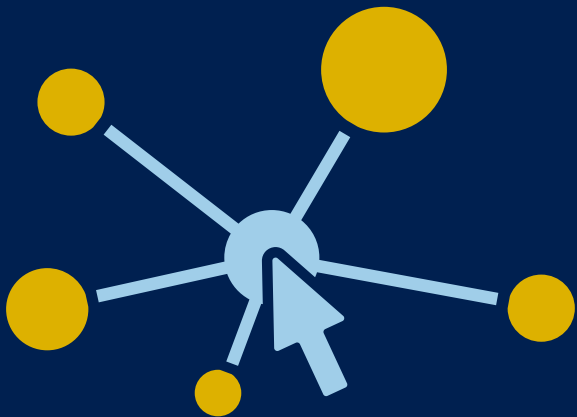
EQUITY AND ACCESSIBILITY

- Enhance Equity and Accessibility measures

Collaboration and Outreach



SURVEYS



INTERACTIVE MAPS,
WEB APPS AND SOCIAL
MEDIA

BAG
TO K
SCHOOL

SCHOOL OUTREACH

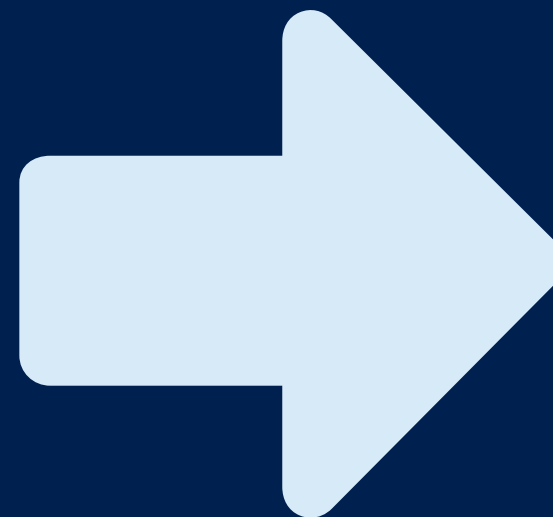


TRADITIONAL: REPORTS
AND MEETINGS





**Adopted
June 2021**



**HAMPTON ROADS
2050
LRTP**

**Adoption by
June 2026**



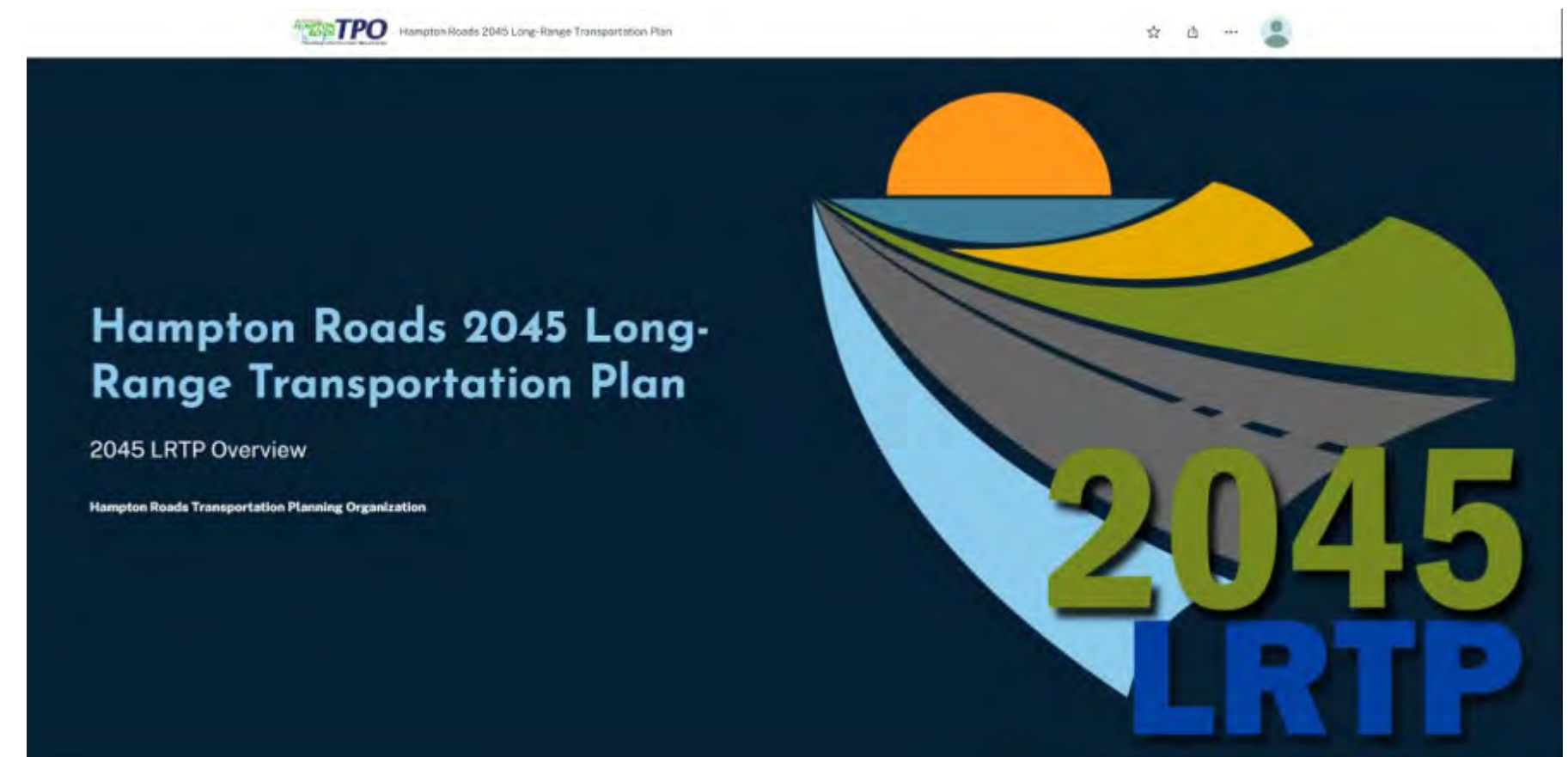
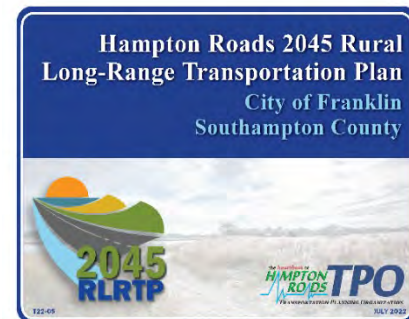
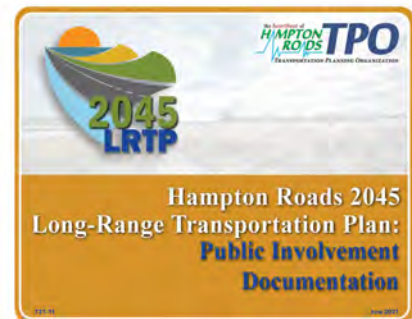
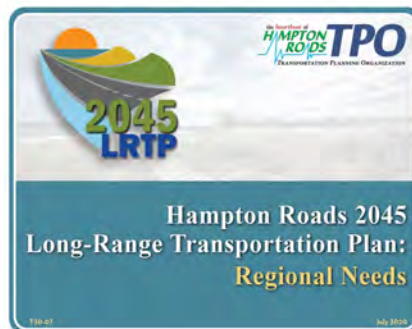
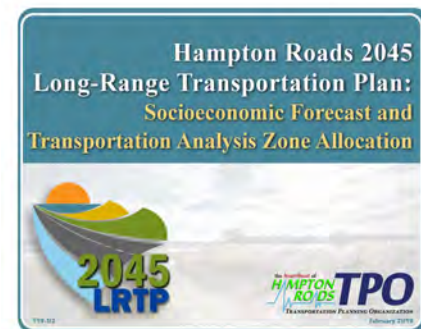
Plan Highlights

**\$17
Billion**
MAINTENANCE/
SYSTEM
PRESERVATION

**\$13.7
Billion**
ADDITIONAL
MULTIMODAL
INVESTMENTS



2045 LRTP Report Documentation



2045 LRTP Collaboration and Public Outreach

- Multiple opportunities to comment at key decision points
- Robust visualization
- Explicit consideration and response to input received
- During the COVID-19 Pandemic, used recorded presentations and virtual meeting platforms to ensure plan could be completed in an open and collaborative fashion

Recorded Presentation Example – Draft Prioritization Scores



2045 LRTP Draft Fiscally Constrained List of Projects Presentation to HRTPO Board - February 2021



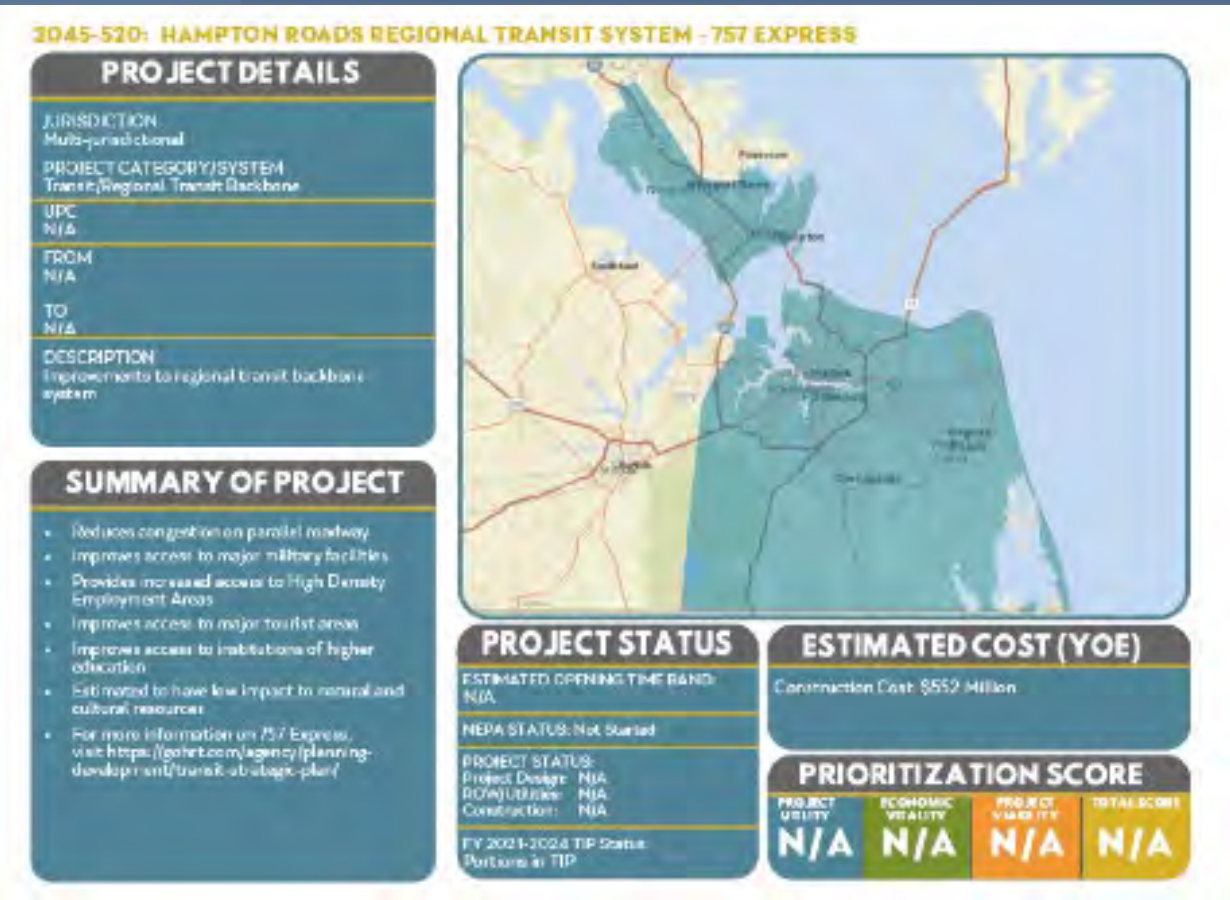
2045 LRTP Regional Priority Projects

Highway

Map Label	Completed Highway Regional Priority Projects (RPPs)	Completion
1	I-64 Peninsula Widening - Segment 1	2017
2	I-64 Peninsula Widening - Segment 2	2019
3	I-64/I-264 Interchange - Phase I	2019
RPPs Under Construction		Estimated Completion
4	I-64 Peninsula Widening - Segment 3 (Exit 242 to Exit 234)	2021
5	I-64/I-264 Interchange - Phase II	2021
6	I-64 Southside Widening, including High-Rise Bridge (I-464 to I-664)	2021
7	I-64/Hampton Roads Bridge-Tunnel Expansion (near Hampton Coliseum to I-564)	2026
Additional RPPs planned in the 2045 LRTP		
8	Hampton Roads Express Lane Network (Jefferson Avenue to Bowers Hill)	2026
9	I-64/I-264 Interchange - Phase III-A	
10	I-664 Widening, including Bowers Hill Interchange (Bowers Hill to College Drive)	
11	I-264 Widening (Witchduck Road to Independence Boulevard)	
12	I-264/Independence Boulevard Interchange	
13	I-64/I-464 Loop Ramps	
14	I-64/Denbigh Boulevard Interchange	
15	VA-154 Widening (West Norfolk Road to I-564)	
16	VA-158 Bypass Widening (I-64 to Hillcrest Parkway)	
RPPs Under Study		
17	Regional Connectors Study	



Transit

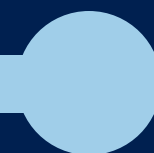


Active Transportation



2050

2024



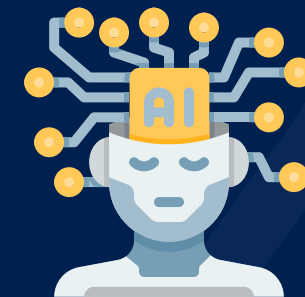
2050





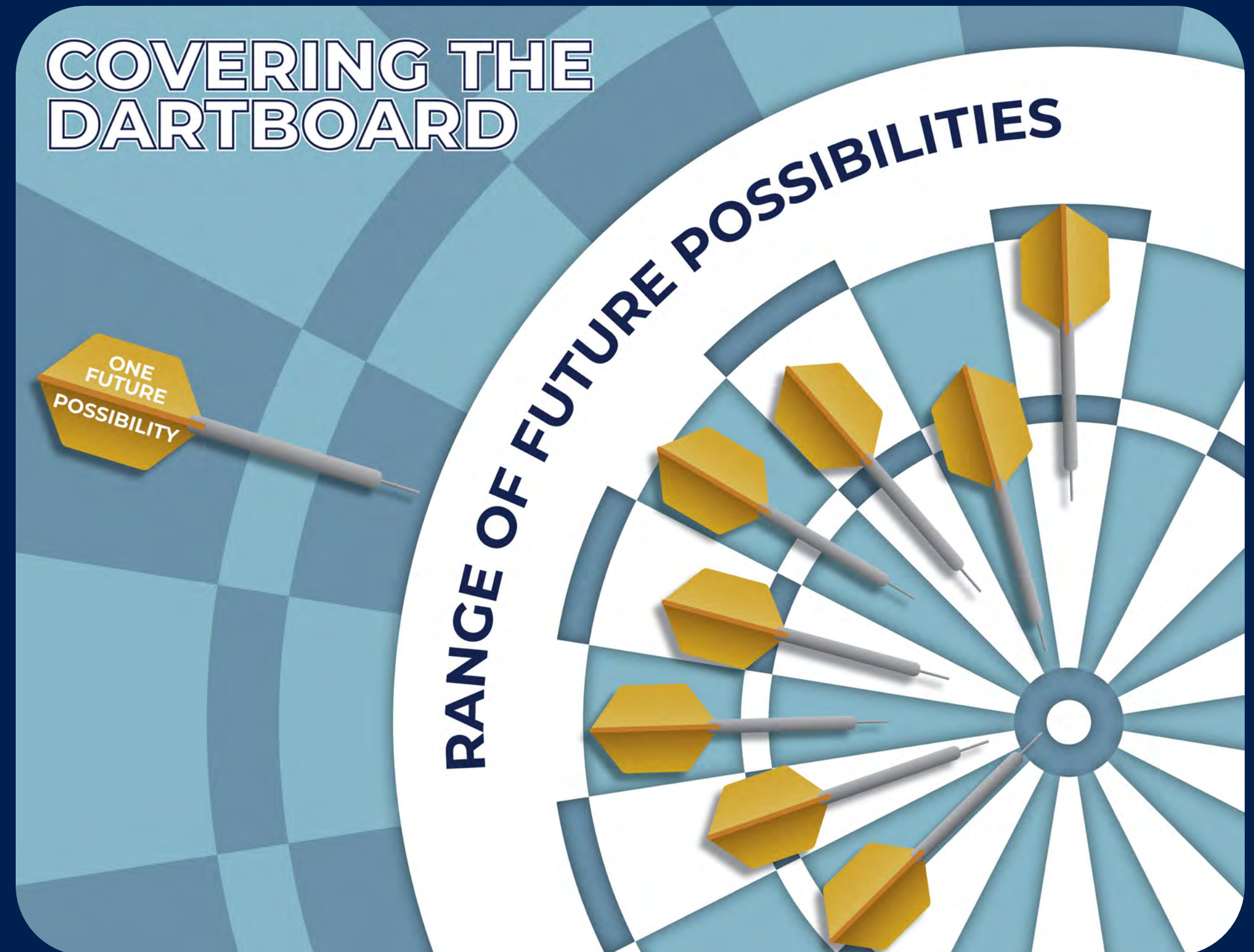
2024

2050

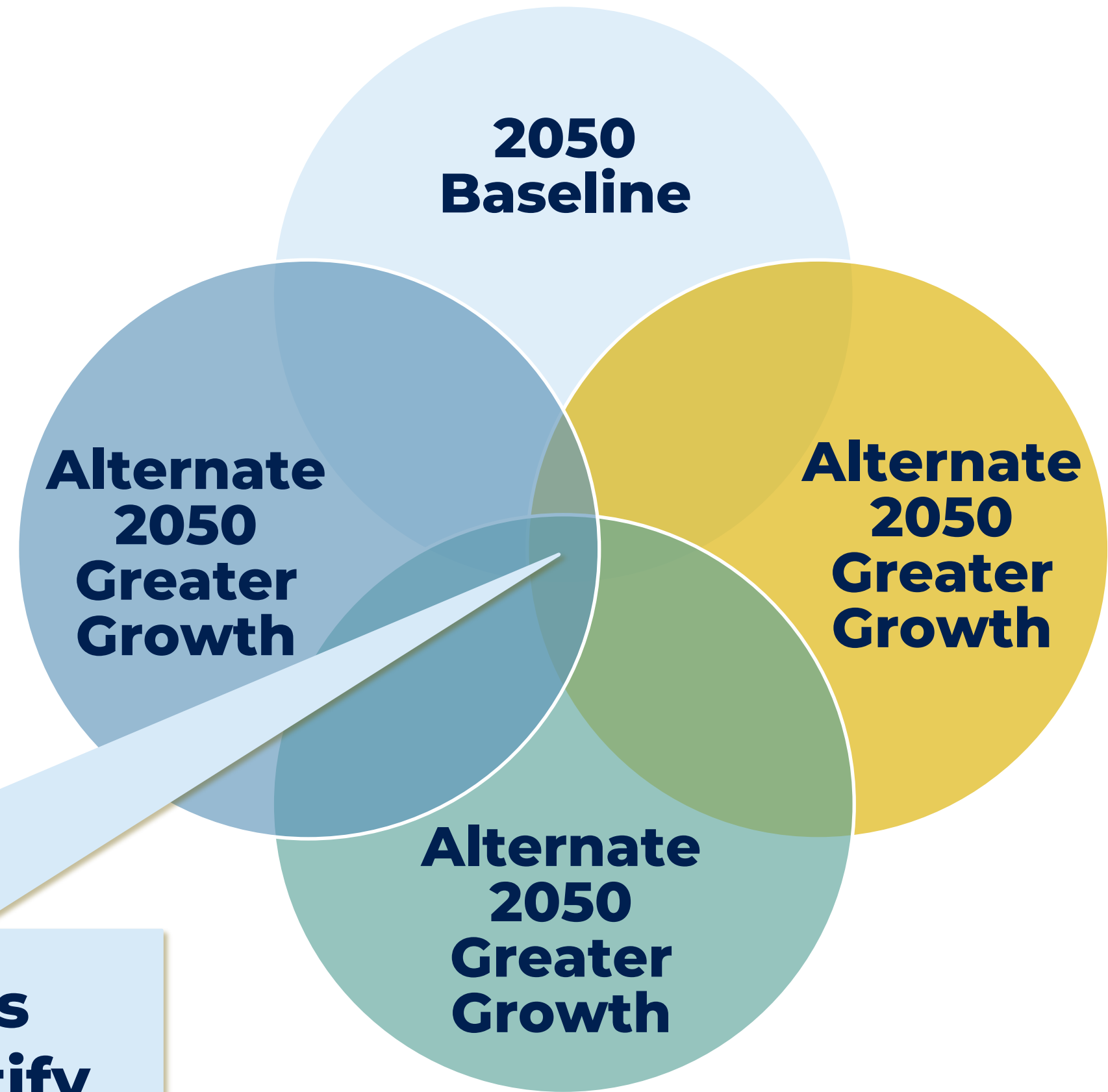


Exploratory Scenario Planning

- Shift from **PREDICTING** to **PREPARING**
- Explore different growth scenarios
- Stress test the transportation network to identify the most robust and resilient projects



L RTP Exploratory Scenario Planning



**Evaluate and Rank Projects
Across All Scenarios to Identify
Most Robust Projects**

HRTPO Project Prioritization Tool

PROJECT CATEGORIES



Bridge/Tunnel



Highway



Interchange/Intersection



Intermodal/Freight



Transit



Active Transportation



Systems/Demand
Management

PROJECT UTILITY

Ability to Solve a
Transportation
Problem

- Congestion
- Travel Time Reliability
- System Continuity and Connectivity
- Safety and Security
- Modal Enhancements
- Infrastructure Condition

ECONOMIC VITALITY

Potential for
Economic Gain

- Travel Time and Delay Impacts
- Labor Market Access
- Address Needs of Basic Sector Industries
- Increased Opportunity
- Economic Distress Factors

PROJECT VIABILITY

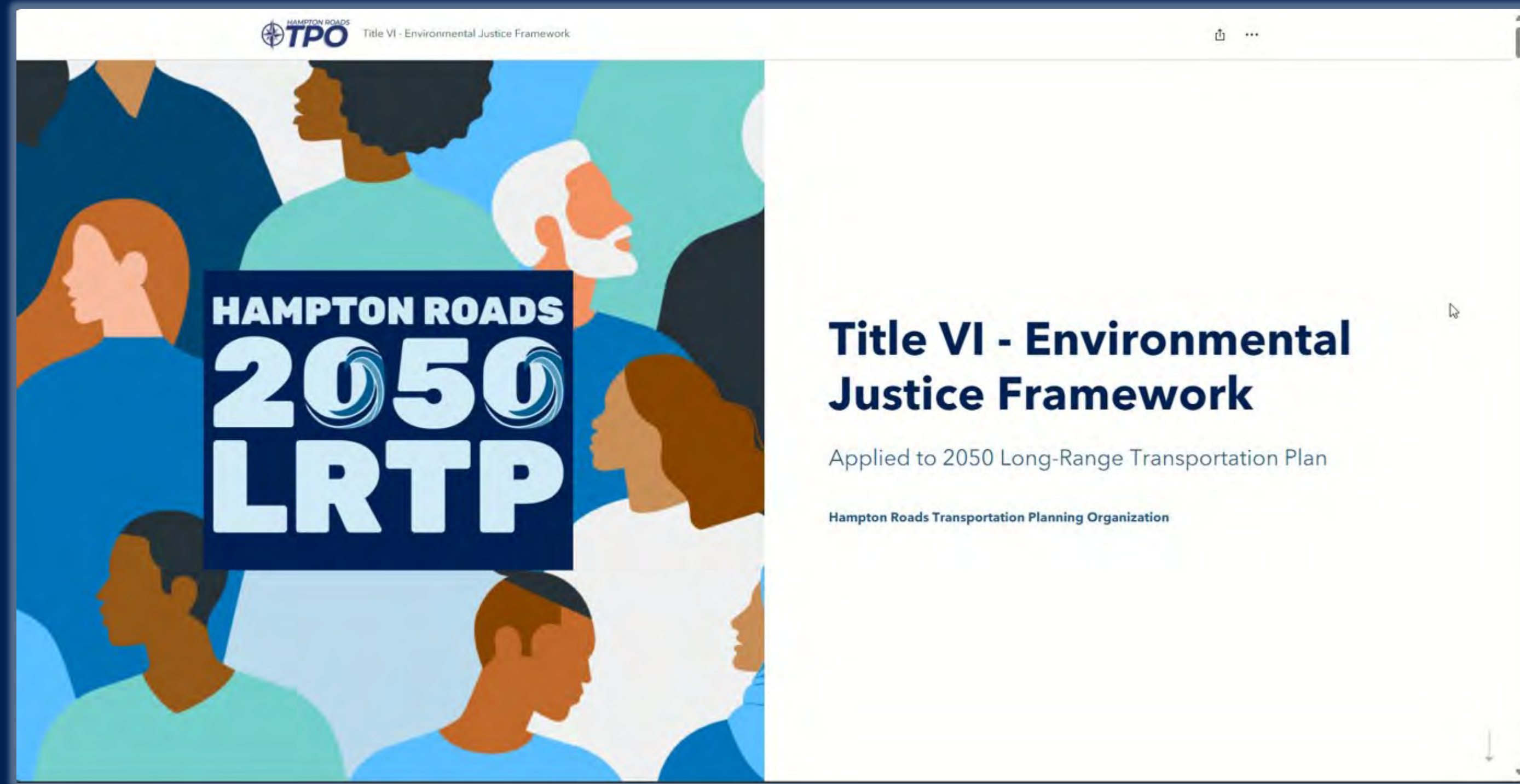
Project
Readiness and
Compatibility

- Project Readiness (funding commitment and design)
- Land Use/Future Development Compatibility
- Environmental Quality/Impacts
- Cost Effectiveness

Prioritization Data Examples



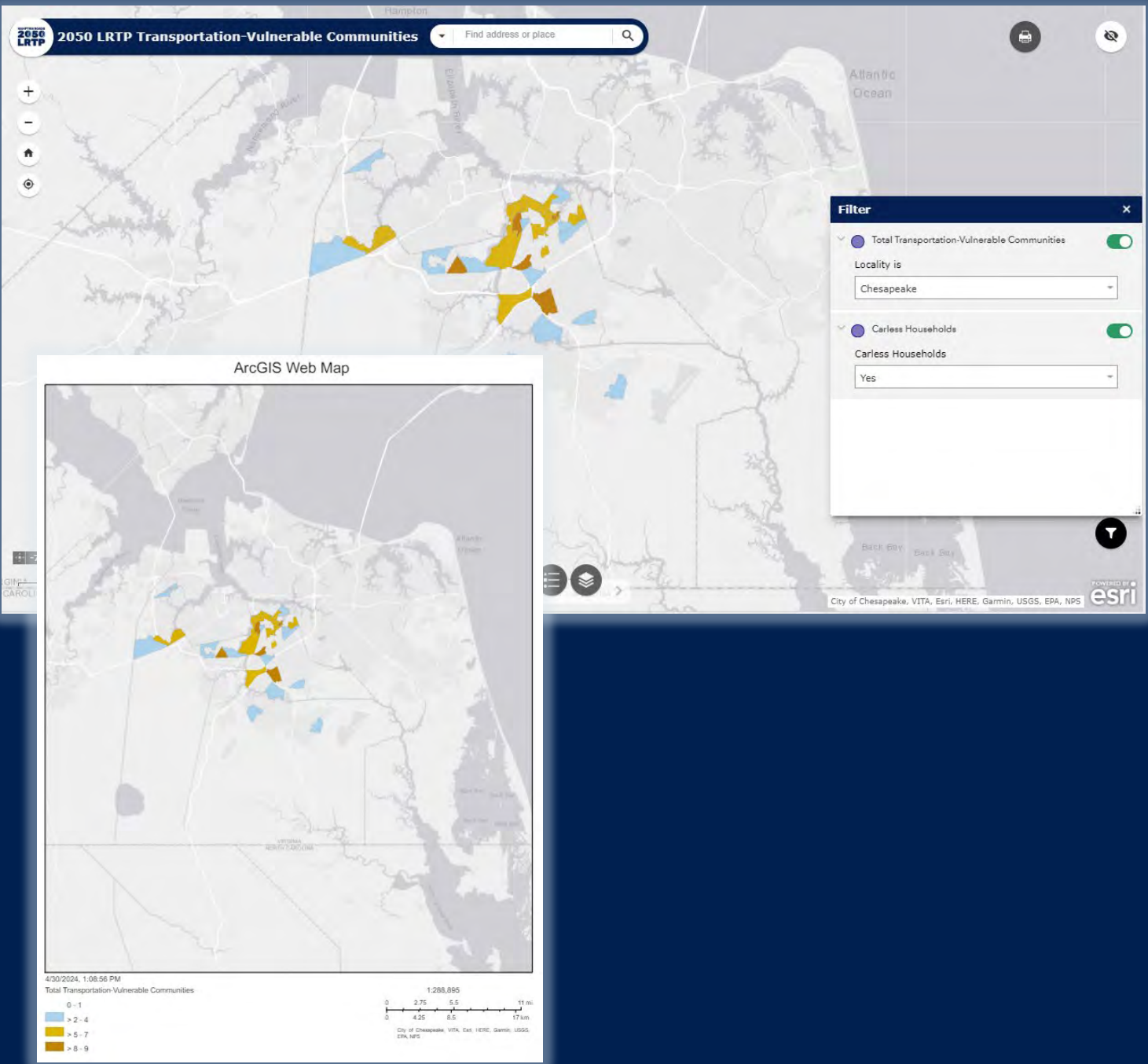
Equity Considerations: Transportation-Vulnerable Communities



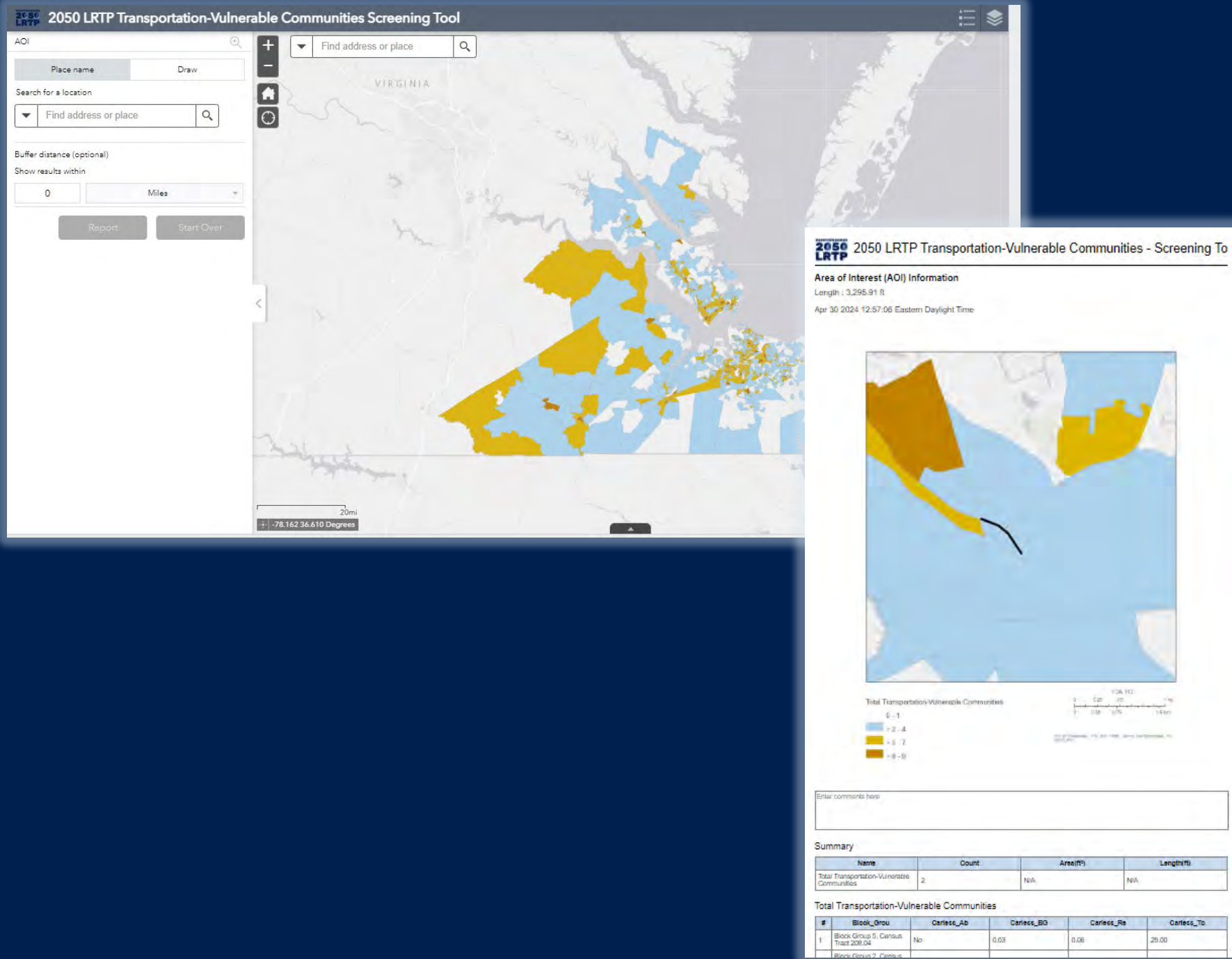
<https://storymaps.arcgis.com/stories/774eed11e4ce432c89c74d011ec6c65c>

Other Equity Mapping Tools (in progress)

Transportation-Vulnerable Community Maps



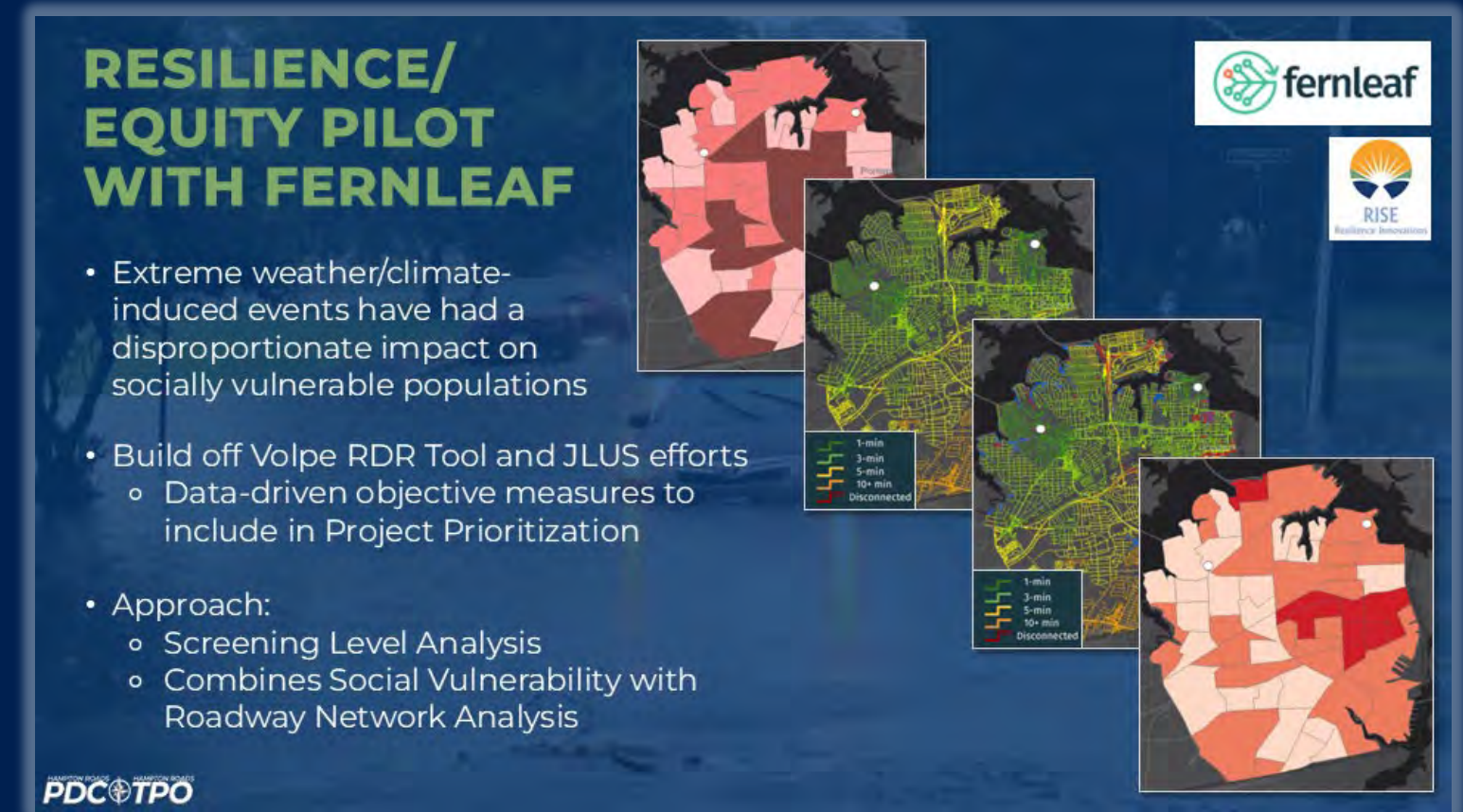
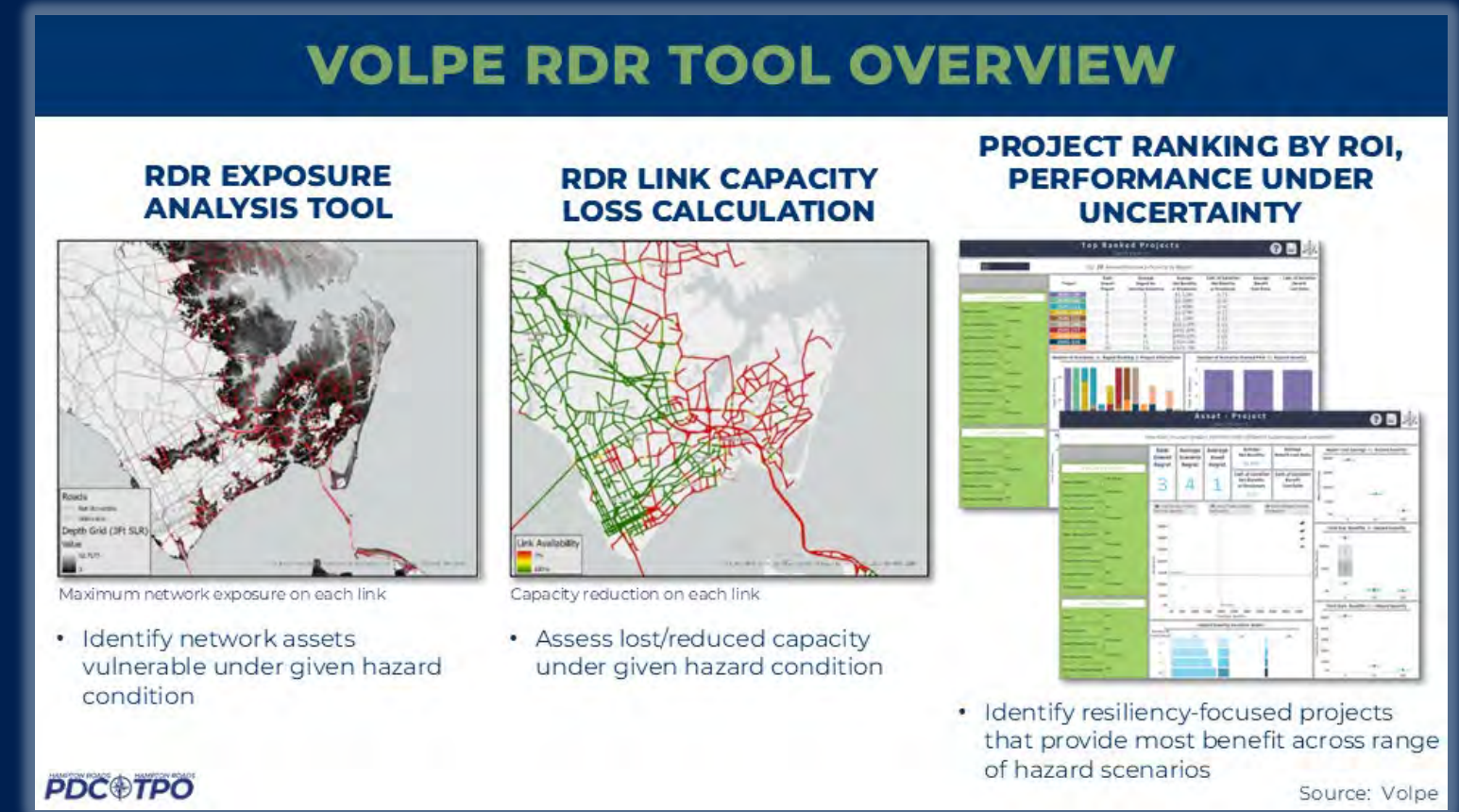
Transportation-Vulnerable Community Project Screening Tool



L RTP Resiliency Considerations

Incorporated into scenario planning

- Volpe Resilience and Disaster Recovery Tool
 - Identify resiliency-focused projects that provide most benefit across range of hazard scenarios
 - Transit and Equity Enhancements
- Fernleaf Resiliency and Equity Pilot
 - Screening Level Analysis
 - Combines Social Vulnerability with Roadway Network Analysis

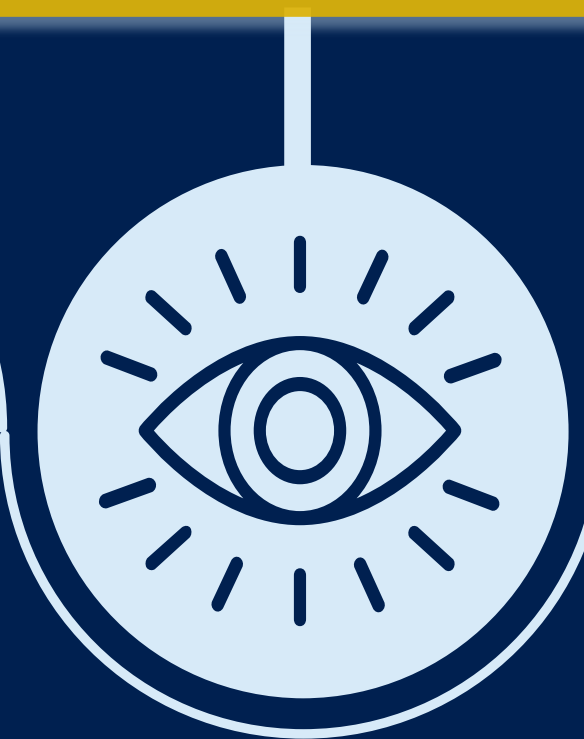


2050 LRTP Planning Milestones

**PLAN
FRAMEWORK**



**VISION &
GOALS**



**EVALUATE &
PRIORITIZE**



**2050
FORECAST**



**IDENTIFY
NEEDS**



**FISCAL
CONSTRAINT**





PLAN FRAMEWORK



2050 FORECAST



VISION & GOALS



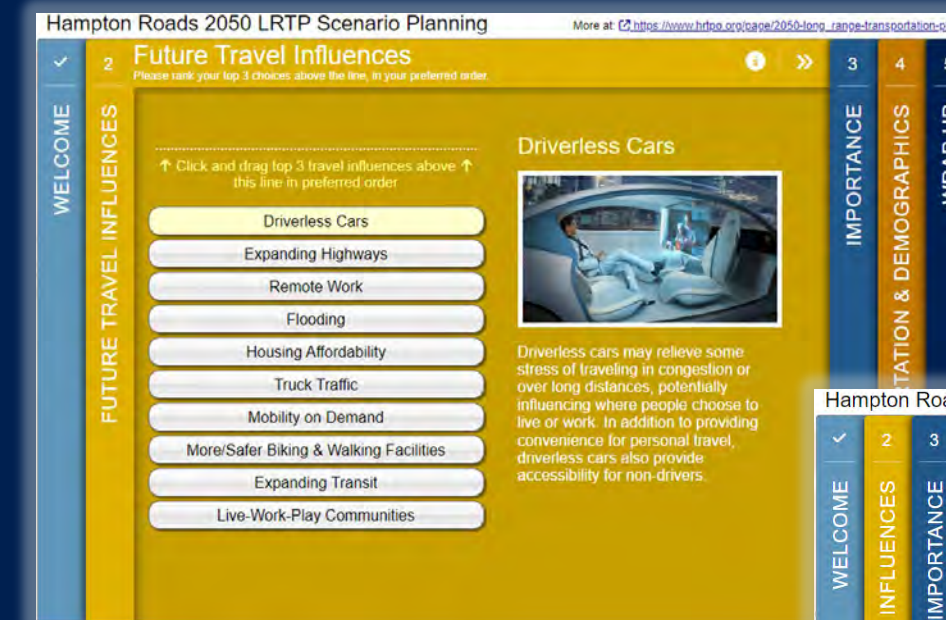
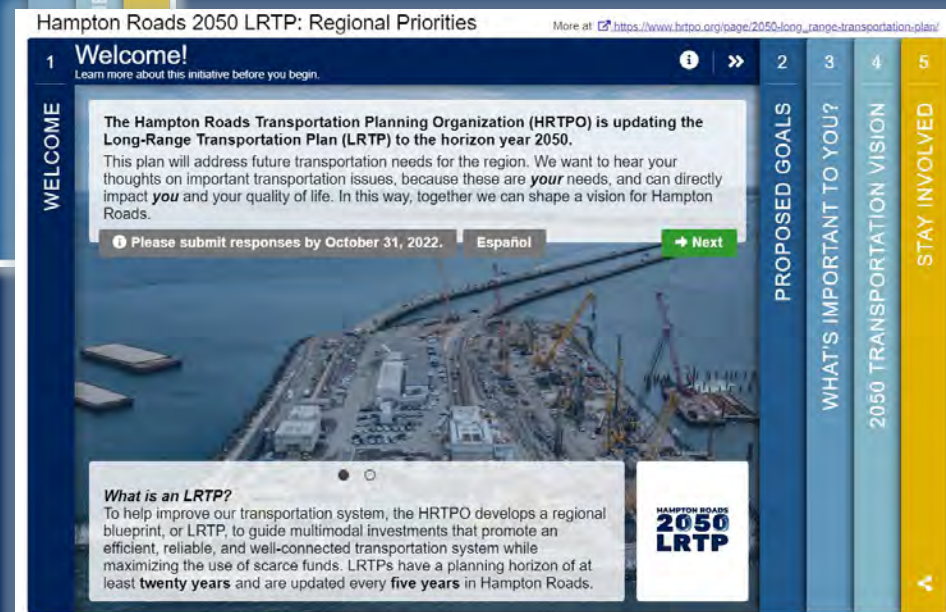
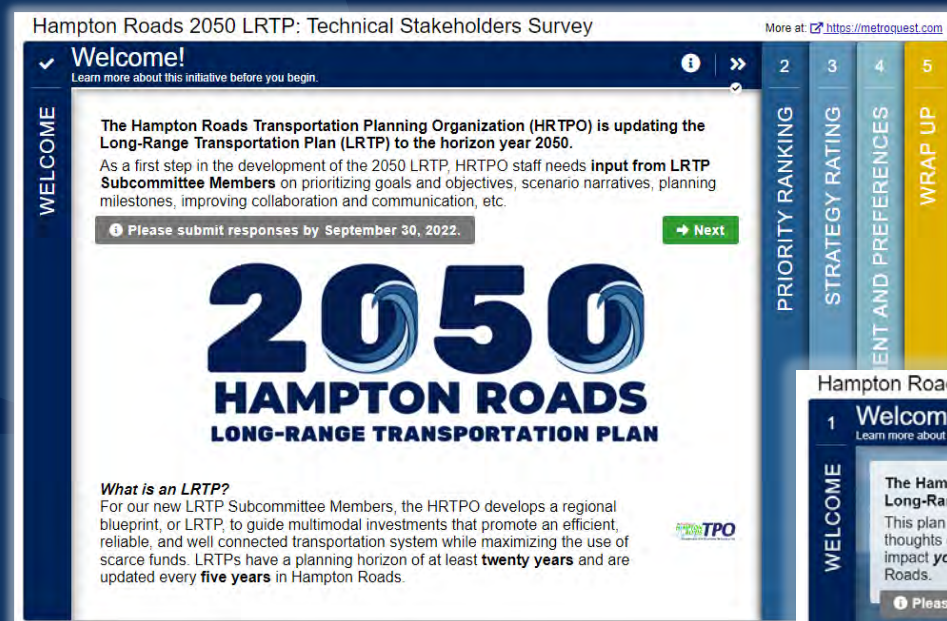
IDENTIFY NEEDS



EVALUATE & PRIORITIZE



FISCAL CONSTRAINT



Regional Priorities Surveys

- October 1 – November 1, 2022
- 633 Participants

Scenario – Drivers of Change

- July 1 – August 31, 2023
- 1,556 Participants



PLAN FRAMEWORK



2050
FORECAST



VISION &
GOALS



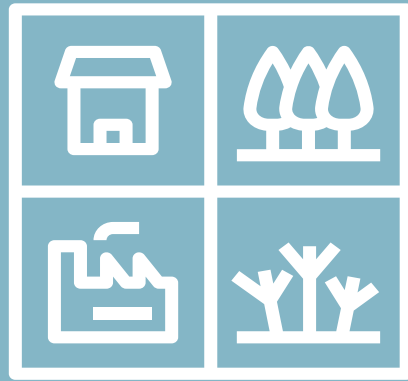
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EVALUATE &
PRIORITIZE

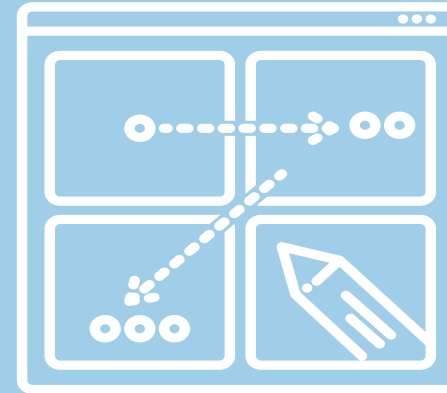


FISCAL
CONSTRAINT



Regional Place Types

- Unified dataset describing regional patterns
- Based off locality land use
- Quantitative densities to determine capacity



Scenario Narratives

- Distinct, plausible futures growth storylines and “Drivers of Change”
- Suitability factors and weights are scenario specific



Greater Growth Control Total

- Greater employment growth above 2050
Baseline: 24% to 33% increase above 2020



PLAN FRAMEWORK



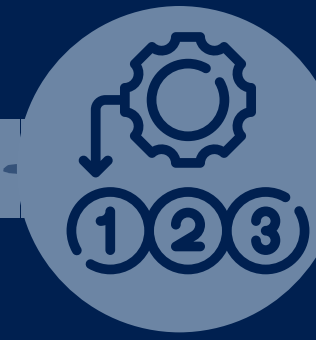
2050
FORECAST



VISION &
GOALS



IDENTIFY
NEEDS



EVALUATE &
PRIORITIZE



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Economic

- Office-Warehouse-Industrial Mix
- Port of Virginia/Freight/e-Commerce Growth
- Military Growth
- Fiber Ring
- Data Centers/High-Tech Industries
- Hybrid Work Location
- Spatial Pattern of Employment



Community

- Location Type Preferences
- Affordable Housing/Land Availability
- Activity & Mixed-Use Centers
- Multimodal Preferences
- Behavior/Land Use Responses to Technology (reduced parking, commute times/frequency, etc.)



Technology

- CAV Adoption Rates
- Mobility as a Service (Ride Sharing)
- Micro-Transit/Micro-Mobility
- System Performance (altered capacity)
- Work-from-Home Rates
- AI Impacts



Environmental

- Sea Leve Rise (inland/high ground preferences)
- Storm Surge



PLAN FRAMEWORK



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PRIORITIZE



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**Greater
Urban Growth**



**Greater
Suburban Growth**



**Greater Inland/
Westward Growth**



WHAT THESE HELP US TEST

Test more urban and multimodal
travel patterns.

Test more overall
regional travel.

Test major impacts from climate
change and alternate commuting
patterns.



PLAN
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**2050
FORECAST**



VISION &
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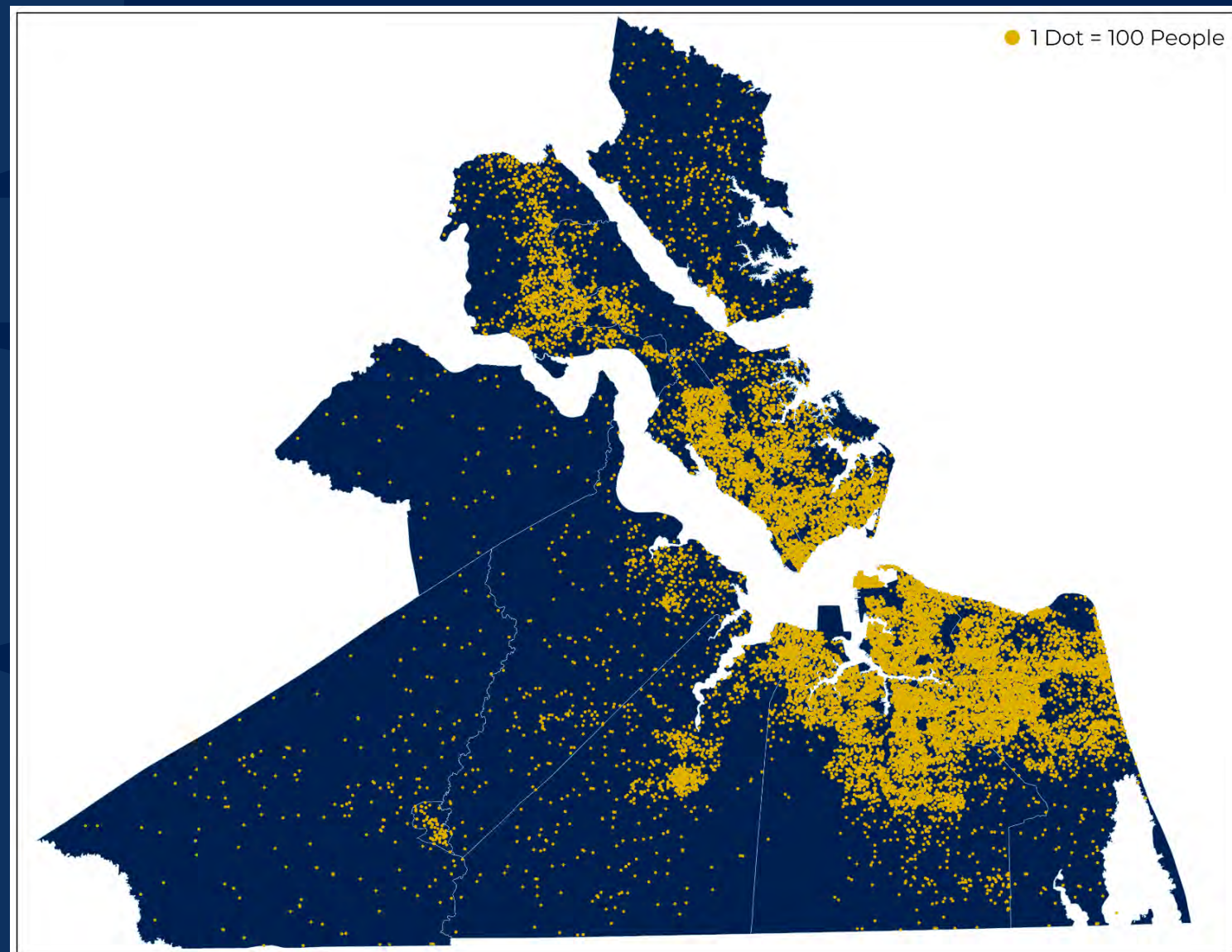


EVALUATE &
PRIORITIZE

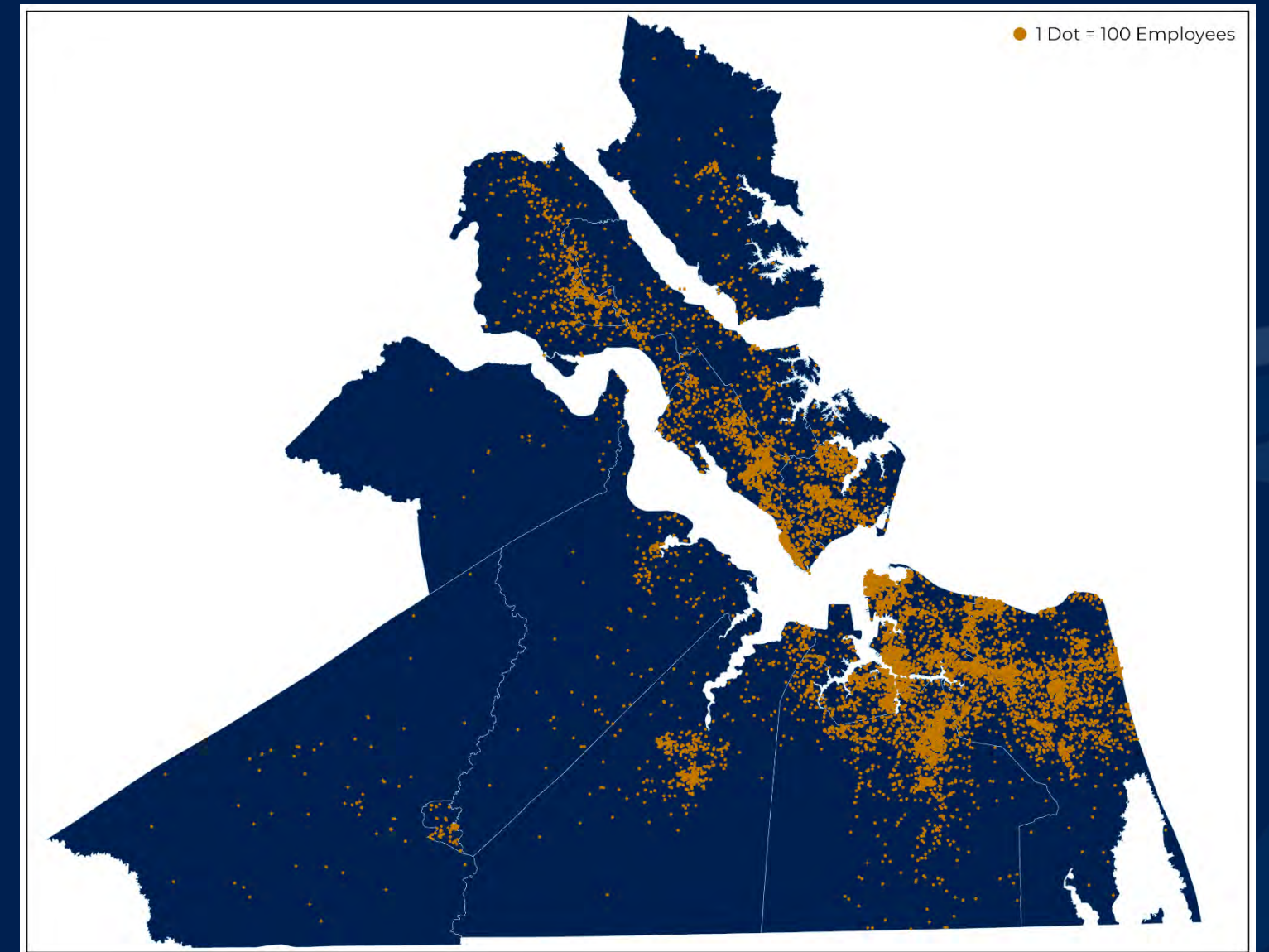


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2050 Baseline Forecast



2050 Forecasted Population



2050 Forecasted Employment



PLAN
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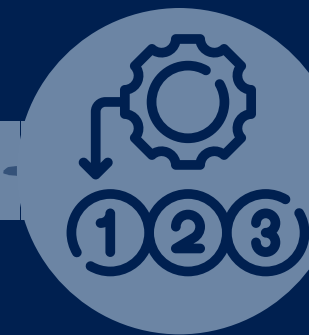
**2050
FORECAST**



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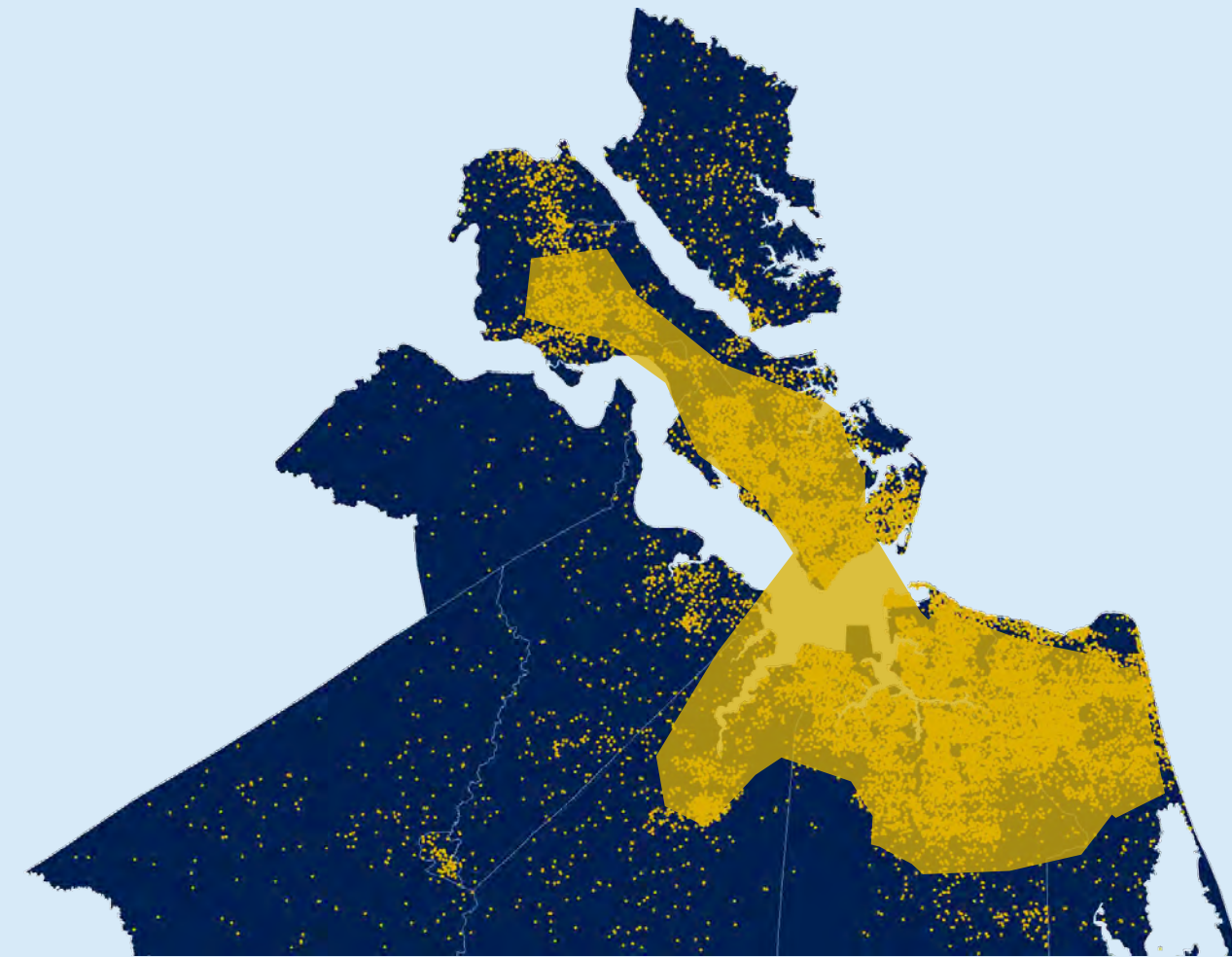


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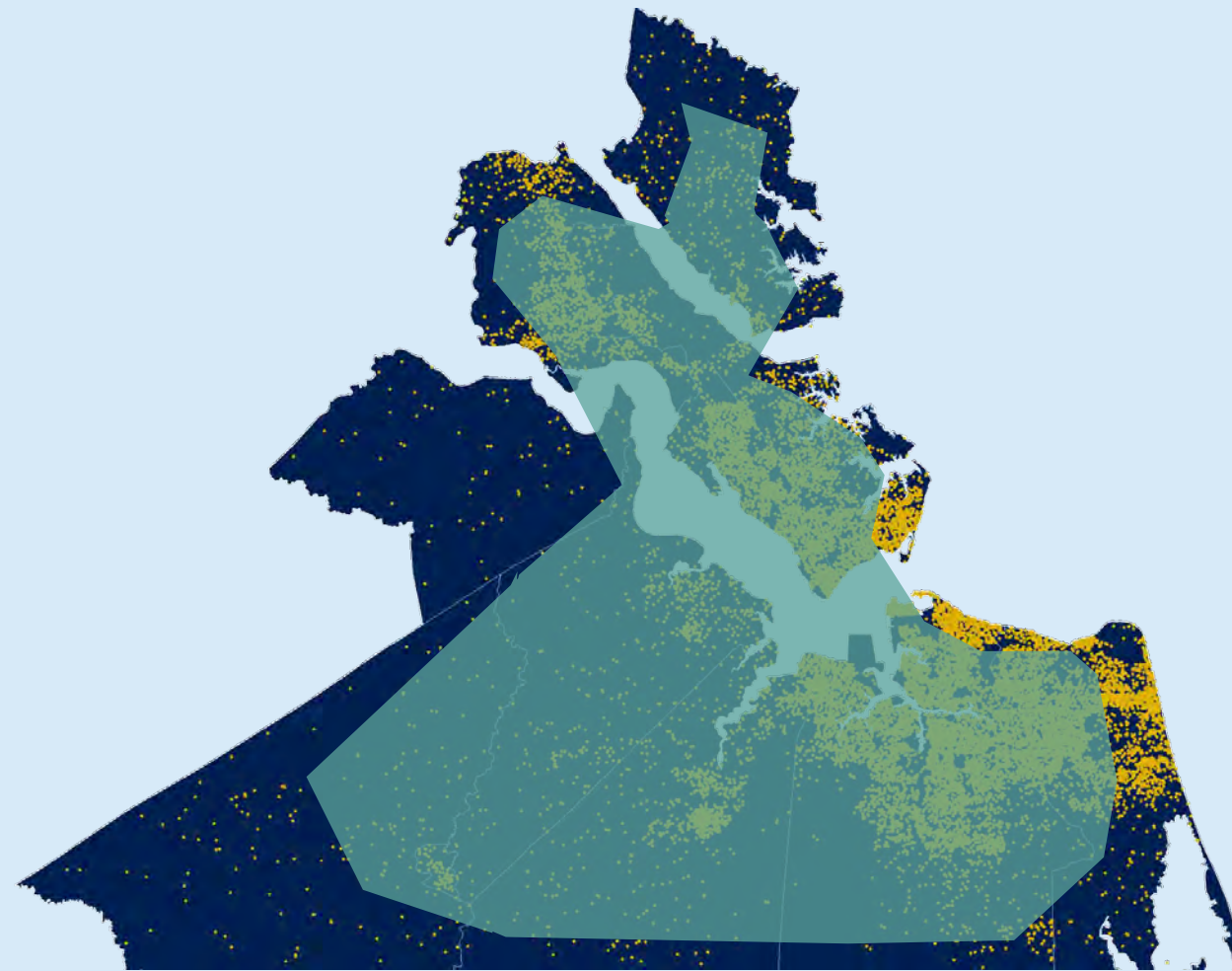


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Greater Urban Growth



Greater Suburban Growth



Greater Inland/ Westward Growth





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**VISION &
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TRANSPORTATION FOR ALL



PLAN
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**VISION &
GOALS**



IDENTIFY
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PRIORITIZE



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CONSTRAINT



- Apply equity lens to evaluate projects
- Ensure improvements help vulnerable communities
- Get input from diverse communities

- Protect the environment
- Improve quality of life
- Ensure projects fit with land use
- Build communities that offer more accessible housing options and depend less on cars

- Make all ways of travel safer
- Reduce conflicts between drivers, cyclists, and pedestrians
- Protect our roads and everyone using them

- Ensure network is reliable, efficient, and resilient
- Consider technology impacts
- Protect against flooding
- Keep transportation system in good condition

- Make it easier to get to places
- Provide travel choices
- Ensure modes work better together
- Reduce traffic delays
- Strengthen connections across the region

- Help region thrive economically
- Make moving goods more efficient
- Reduce travel during heavy traffic
- Make our area more attractive to tourists



PLAN
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2050
FORECAST



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GOALS



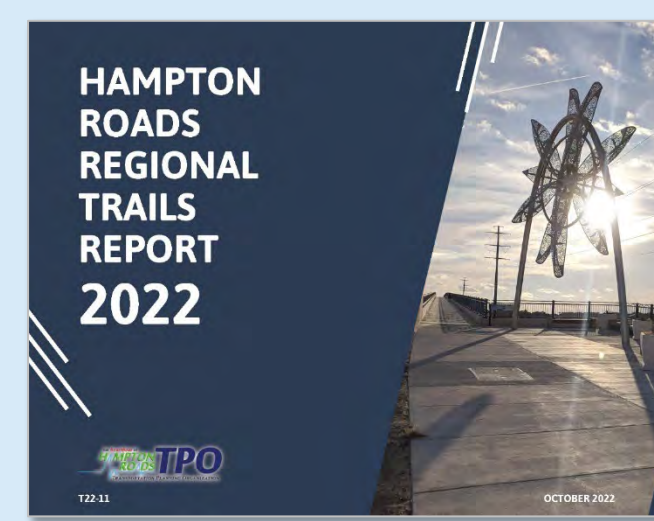
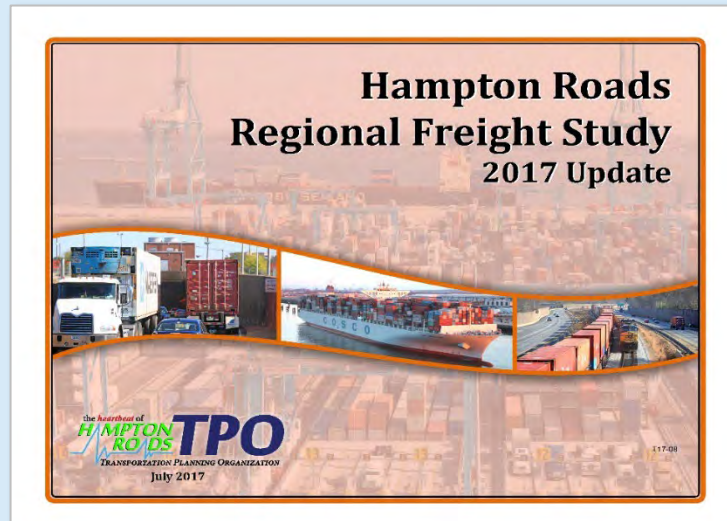
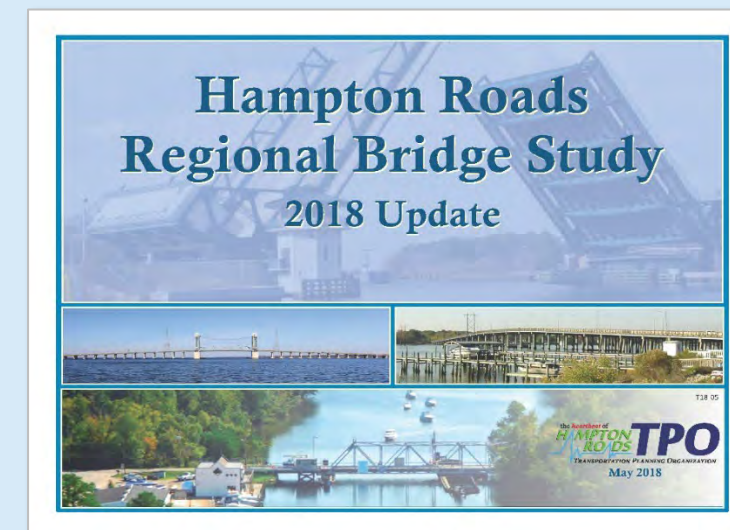
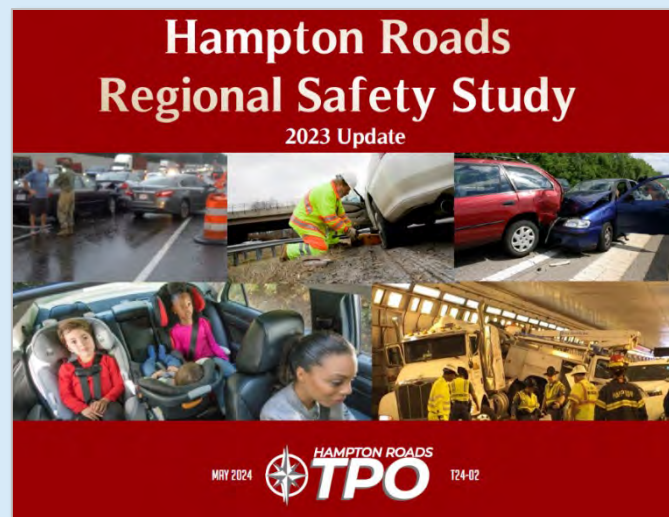
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Candidate Project Portal



Hampton Roads 2050 Long-Range Transportation Plan
Candidate Project Portal


[Home](#) ["How-To" Tutorial](#) [Candidate Project Portal](#) [About Us](#)






"How-To" Tutorial

Please click here to watch a tutorial to learn how to navigate the Candidate Project Portal.




Candidate Project Portal

Please click here to submit candidate project suggestions to be considered for the region's 2050 Long-Range Transportation Plan.

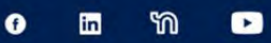


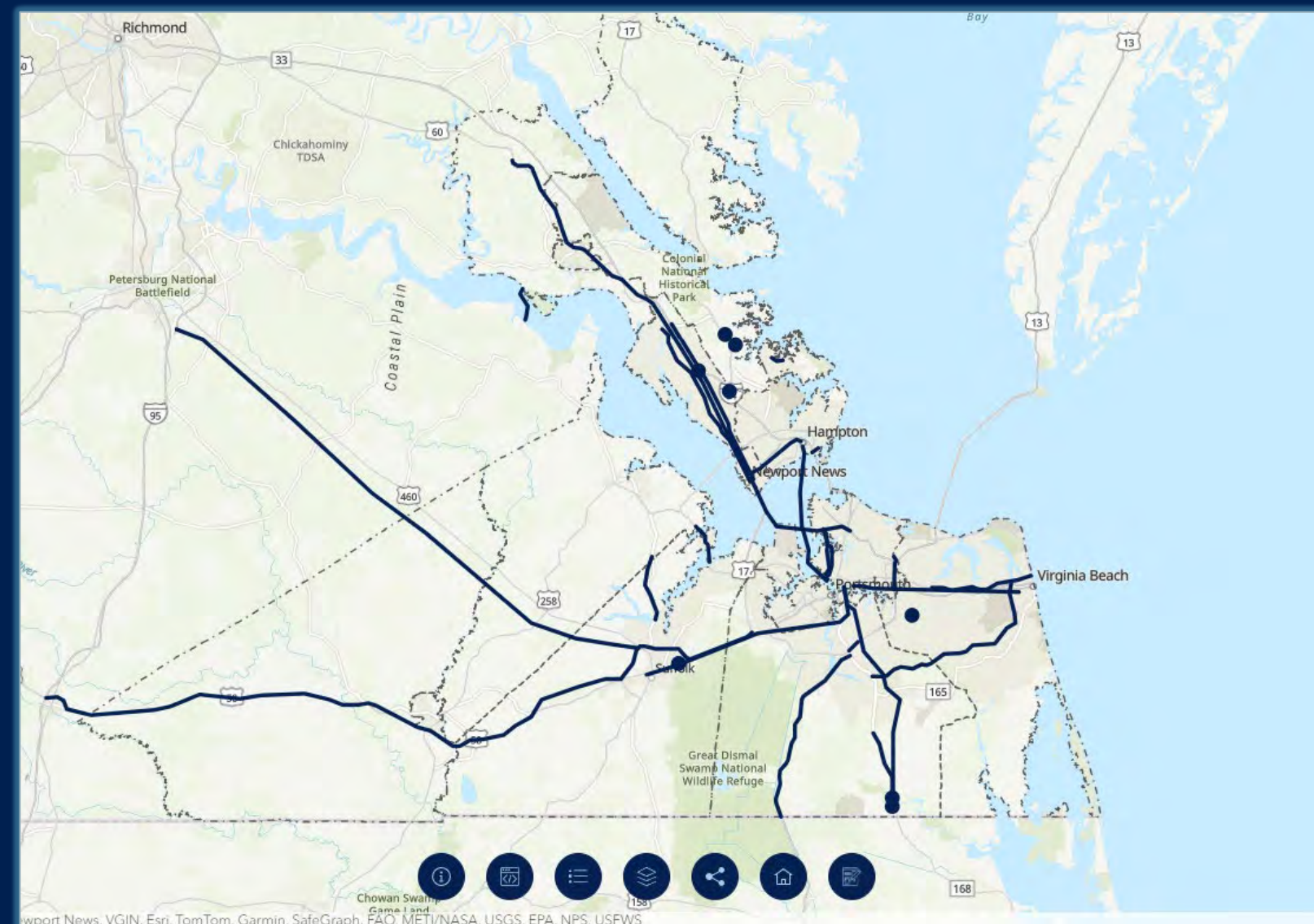
About Us

Please click here to learn more about the Hampton Roads Transportation Planning Organization and the 2050 Long-Range Transportation Plan.



The Regional Building
723 Woodlake Drive
Chesapeake, VA 23320
Phone: 757-420-8300







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2050
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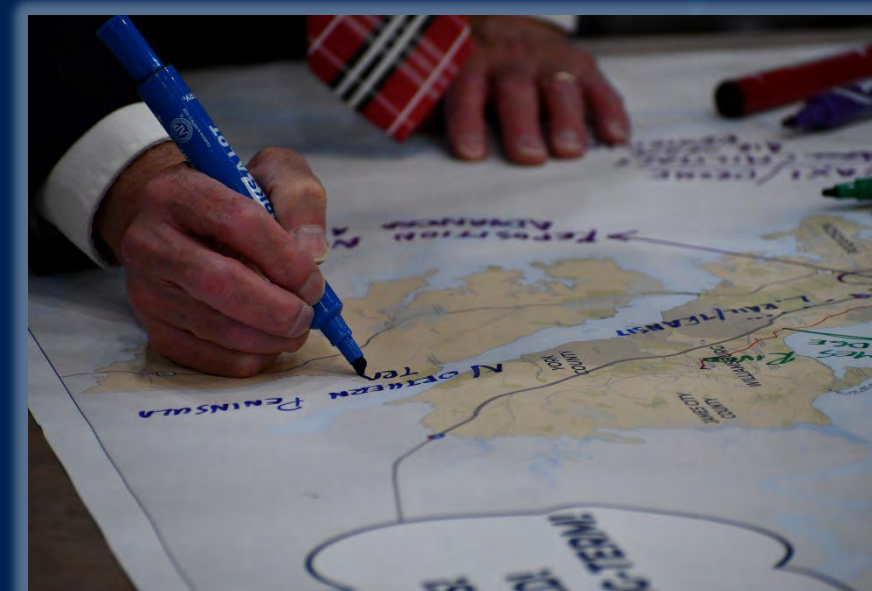


EVALUATE &
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Interactive Workshop with HRTPO Board





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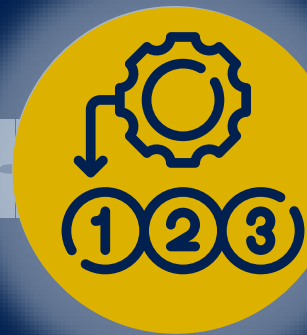
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**EVALUATE &
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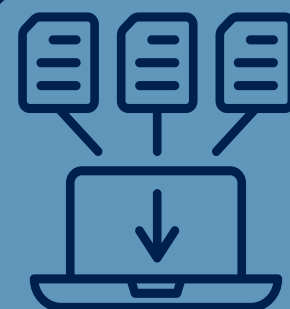
**Collect
project
ideas**

**Work with
stakeholders
to ensure
projects are
consistent
with growth
plans**

**Collect
project
data**

**Evaluate
and
prioritize
across
future
scenarios**

**Identify
available
funding and
apply fiscal
constraint**





PLAN
FRAMEWORK



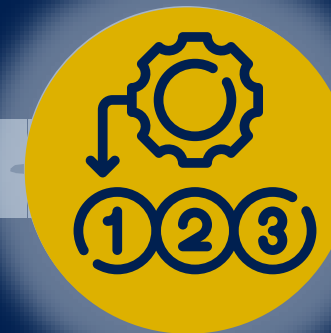
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Scenario Modeling

Across all Scenarios





PLAN
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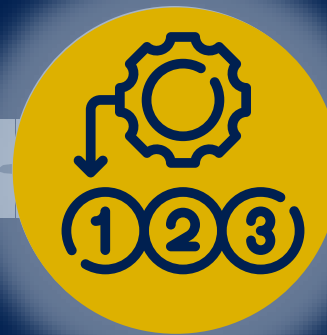
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**EVALUATE &
PRIORITIZE**



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EQUITY ANALYSIS

TRANSPORTATION-VULNERABLE COMMUNITIES



- Accessibility
- Travel Choices
- Safety
- Congestion





PLAN
FRAMEWORK



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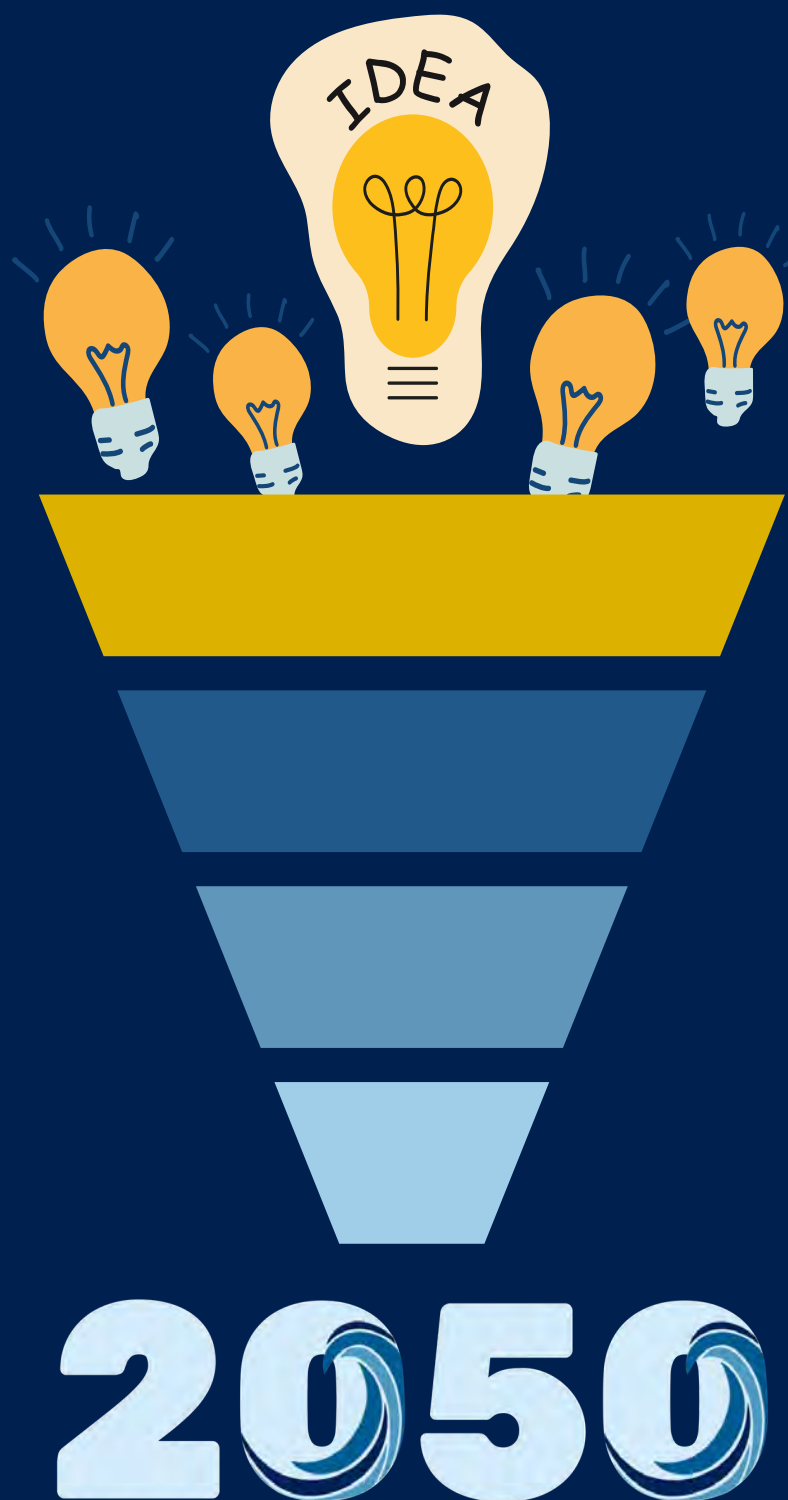


EVALUATE &
PRIORITIZE



**FISCAL
CONSTRAINT**

- Include the most robust and resilient projects
- Balance projected costs with reasonably available funding sources
- Ensure the plan is practical and achievable



FHWA/FTA Planning Emphasis Areas



***Tackling the
Climate Crisis***



***Equity and
Justice40***



***Complete
Streets***



***Virtual Public
Involvement
(VPI)***



STRAHNET



***FLMA
Coordination***



***Planning and
Environmental
Linkages (PEL)***



***Data
Sharing***

Recognition for Best Practices

- Virginia APA – Exploratory Planning for Uncertain Times (July 2019)
- AMPO – Scenario Planning Best Practices (October 2019)
- TRB – Project Prioritization (Jan 2022)
- Resiliency
 - TRB Transportation Resiliency Metrics Study (September 2020)
 - TRB Transportation Planning Applications (June 2021)
 - C40-USDN Advancing Climate Action Webinar Series (March 2022)
 - APA Federal Planning Division (June 2022)
 - TRB Innovations in Travel Analysis and Planning (June 2023)
- Virginia Land Conservation & Greenways Conference – Regional Trails Planning (April 2023)
- Talking Freight Webinar (July 2023)
- VDOT Land Use Forum - (May 2024)
- FHWA/FDOT Integrating Resilience Peer Exchange (September 2020)
- FHWA/Houston-Galveston Area Council Freight and Technology Peer Exchange (December 2022)
 - Showcased regional planning efforts in freight, resiliency, and equity
- FHWA/Piedmont Authority for Regional Transportation (May 2023)
 - Showcased scenario planning efforts
- FHWA Resiliency Peer Exchange (July 2024)
- FHWA's Model LRTPs: A Guide for Incorporating Performance-Based Planning
 - 2045 LRTP and HRTPO Project Prioritization noted as effective practices
- NCHRP: Incorporating Uncertainty in LRTP (underway)

Hampton Roads **LONG-RANGE TRANSPORTATION PLAN**

LRTP Team: LRTP@hrtpo.org

Dale M. Stith - Principal Transportation Planner

Kyle Gilmer - Senior Transportation Planner

Vikas Chhillar - Transportation Data Analyst II

