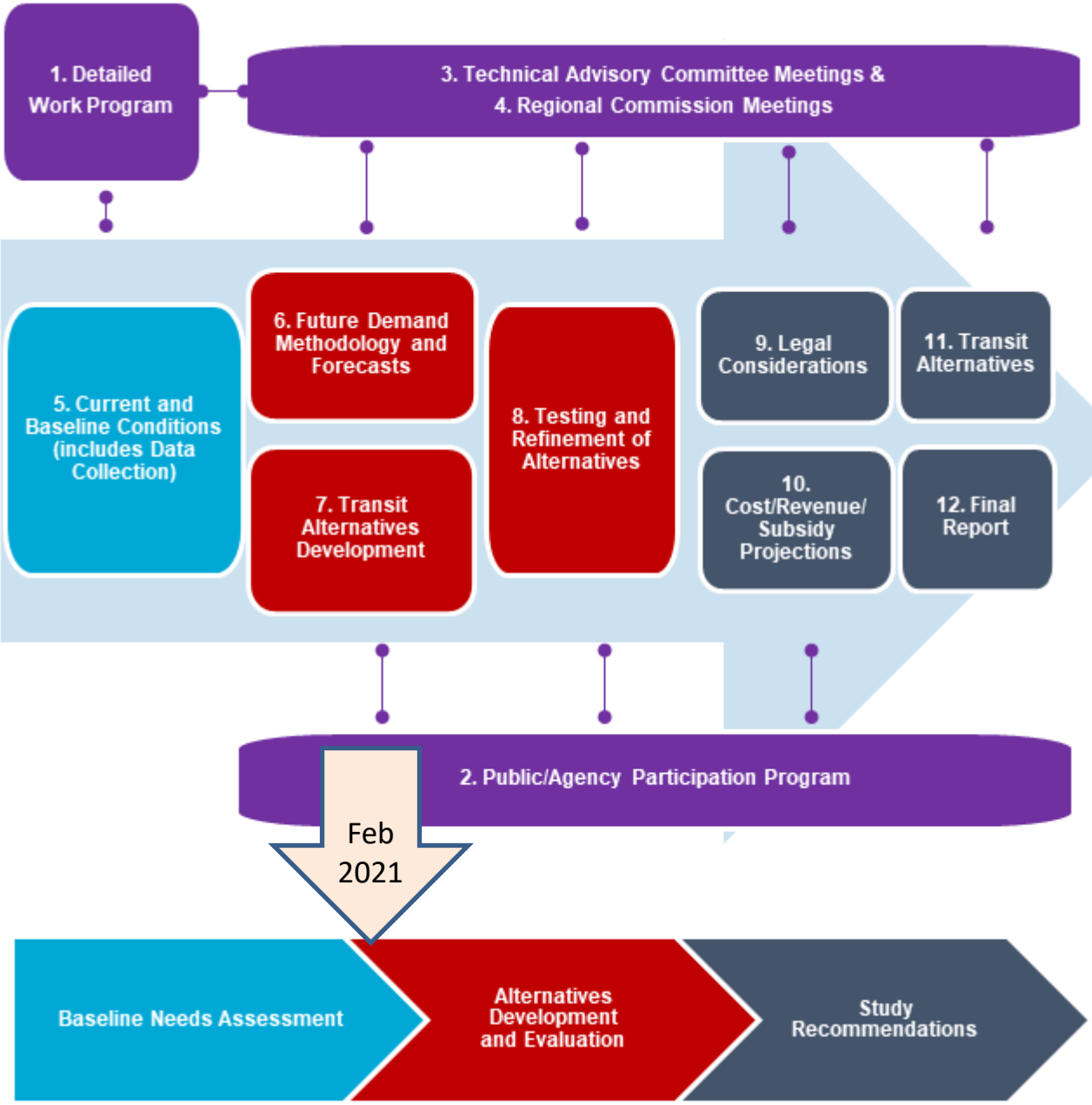
Springfield to Quantico Enhanced Public Transportation Feasibility Study

Technical Advisory Committee Meeting #4
February 18, 2021

Virginia Department of Rail and Public Transportation

Meeting Agenda

- Introductions / Welcome
- Meeting Objectives
- Needs Assessment Discussion
  - Introduction / Poll
  - Breakout Sessions
- Public/Stakeholder Outreach
- Alternatives Development Process
- Next Steps – Future TAC Meetings



New: Land Use Assessment Task

Land Use Assessment Task

Objectives:

1. Assess extent to which the existing and planned land use and development patterns provide transit-supportive environments
2. Identify the highest-priority locations for transit-oriented development within the study area and apply mobility/hub concepts to station areas
3. Evaluate the impact of transit-supportive land use on the performance of transit alternatives

Scope:

- Coordination with County Planning Staff
- Identification of Potential Mobility Hubs/Nodes by Type
- Existing Conditions Analysis for Station Areas (Up to 10)
- Station Area/Mobility Hub Planning for Station Areas (Up to 10)
- Development of Alternative Land Use Scenarios
- Modeling and Testing of Transit and Land Use Scenarios

Needs Assessment

Needs Statement

Which problems are we trying to solve?

- Establishes the problems which must be addressed in the analysis
- Serves as the basis for the project goals, objectives, and preliminary evaluation measures
- Provides a framework for determining which alternatives should be considered as reasonable options in a given corridor
- Identifies and concisely states the primary transportation challenges to be addressed

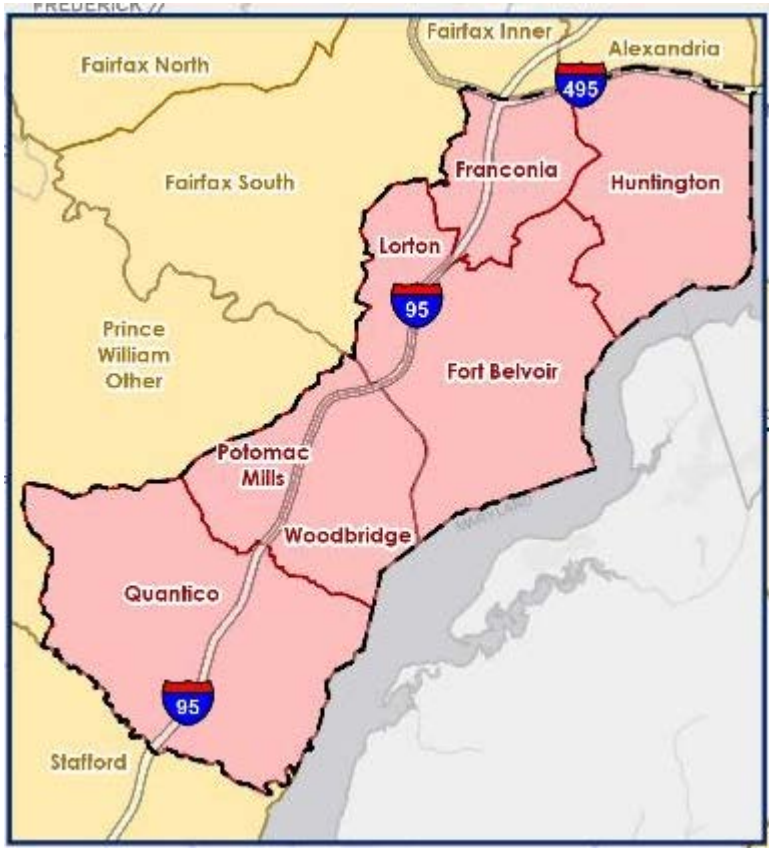
Need for Enhanced Transit

Needs are identified through three primary inputs:

1. Review and analysis of past plans and studies and current policy guidance
2. Assessment of existing and forecasted/desired conditions for transportation and land use
3. Engagement with the community and solicitation of public and stakeholder input

Existing Commute Patterns

- 36% of the commute trips that start in the Study Corridor, stay in the Study Corridor
  - Includes 19% of commute trips that start and end in the same District
  - More than 60% of total trips stay within the Study Corridor
- 38% of commute trips that start in the Study Corridor (or further south) are heading to points north including Inner Fairfax, DC, Alexandria & Arlington
- 23% of commute trips that start in the Study Corridor (or further south) may be using the corridor to access the Beltway



Enhanced Public Transportation is Needed Because …

- Land Use: Growth projections for the corridor show that the corridor will increase in population and jobs.
- Equity: This corridor has a specific need to connect low-income and minority population to job opportunities
- Future Development: Existing transportation services and networks may need enhancements to support planned land uses and economic development
- Travel Markets Served by Transit: While the corridor has multiple transit options for commuting trips to the DC/Arlington core, gaps remain for intra-corridor and suburb-to-suburb trips

Enhanced Public Transportation is Needed Because …

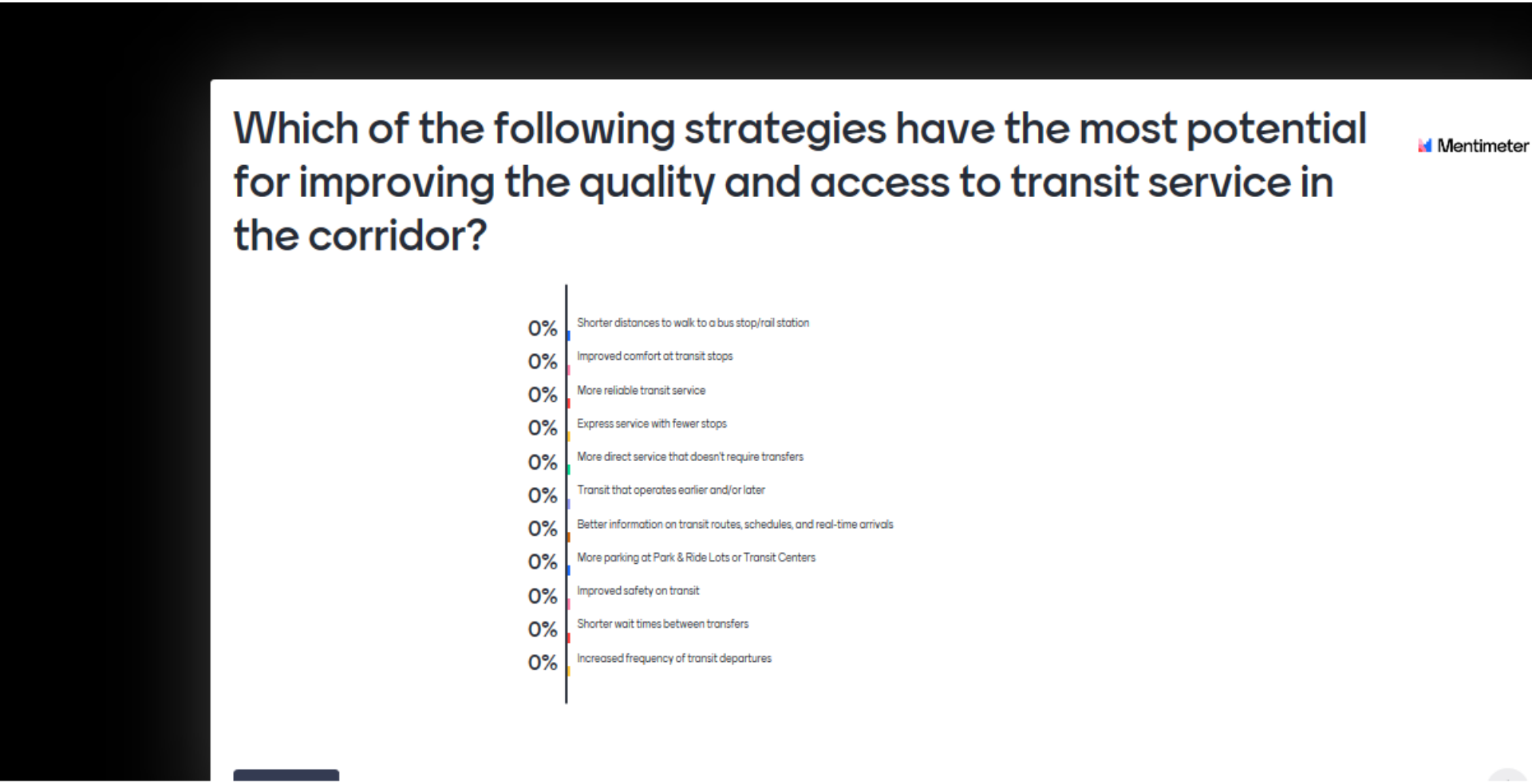
- Connections to Activity Centers: Transit connections to key regional activity centers, such as Fort Belvoir and Quantico bases, are limited and infrequent
- Transit Service Quality and Ridership: Transit service quality is more competitive for commute trips to the core.
- Access to Transit Services: Access is reliant on park & ride or longer walks to bus routes, posing a particular challenge for transit-dependent riders
- Traffic Congestion and Travel Times: Traffic congestion is severe and continuing to get worse, resulting in slow and unreliable travel times for drivers and buses in mixed-traffic

Poll: Transportation Enhancement Strategies

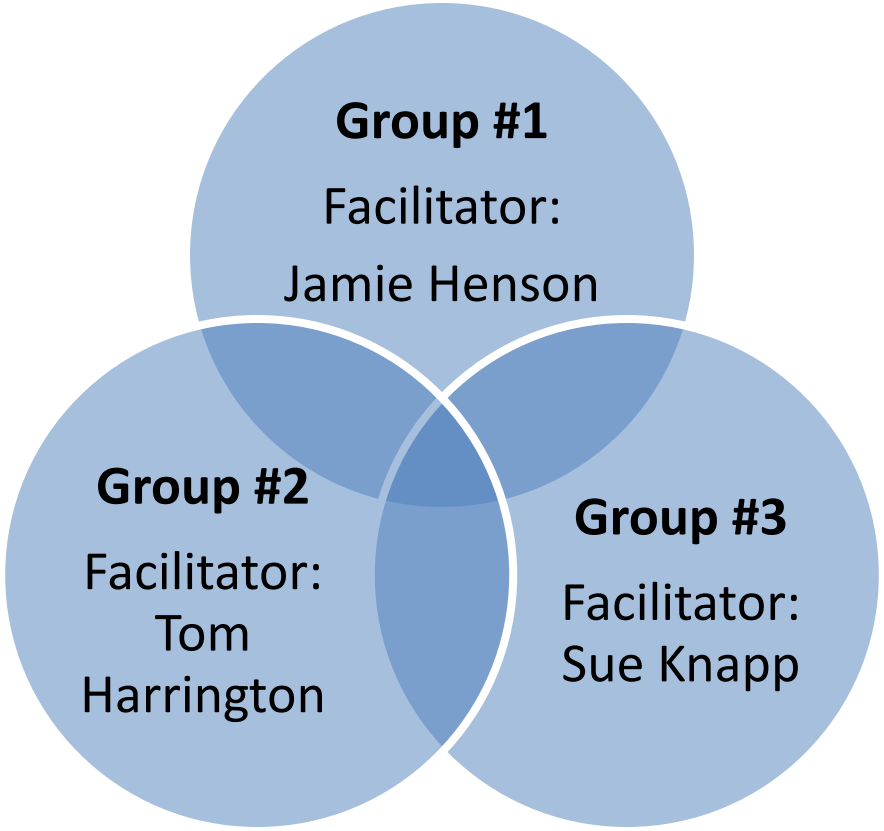
- Use your computer or phone and navigate to:
  - www.Menti.com
    - Type code: 7189619

- Directions:
  - Prioritization Strategy Poll
  - 10 Strategies
  - 100 Points per participant
    - Select, in groups of 10 points, how many points you prioritize each strategy
    - Can assign one strategy 100 points or each strategy 10 points

Poll: Transportation Enhancement Strategies



Breakout Sessions



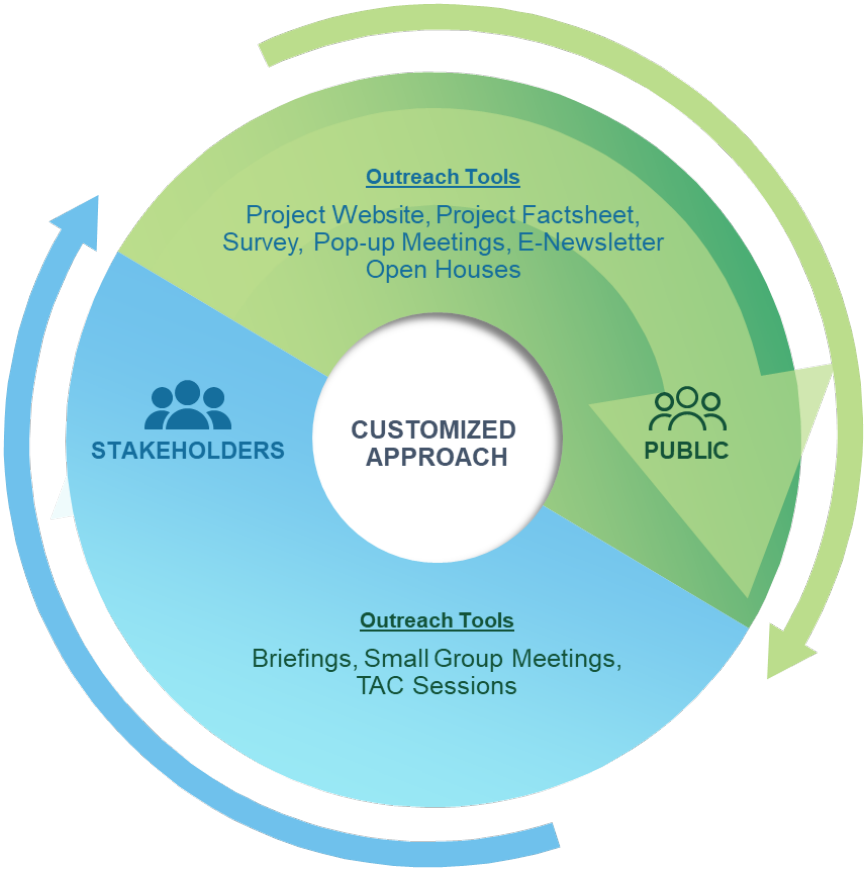
Breakout Sessions - Questions

1. Did the draft needs statement capture the most critical transit enhancement needs in the corridor? Did we miss anything?
2. Which travel markets need enhanced transit the most?

Public/Stakeholder Outreach

Public/Stakeholder Outreach Status

- Elected Officials Committee:
  - Fairfax and Prince William County Board members
  - VA General Assembly
  - U.S. Congressional Offices
- Public outreach materials under development:
  - Project Factsheet
  - DRPT Website Information
  - On-Line Survey

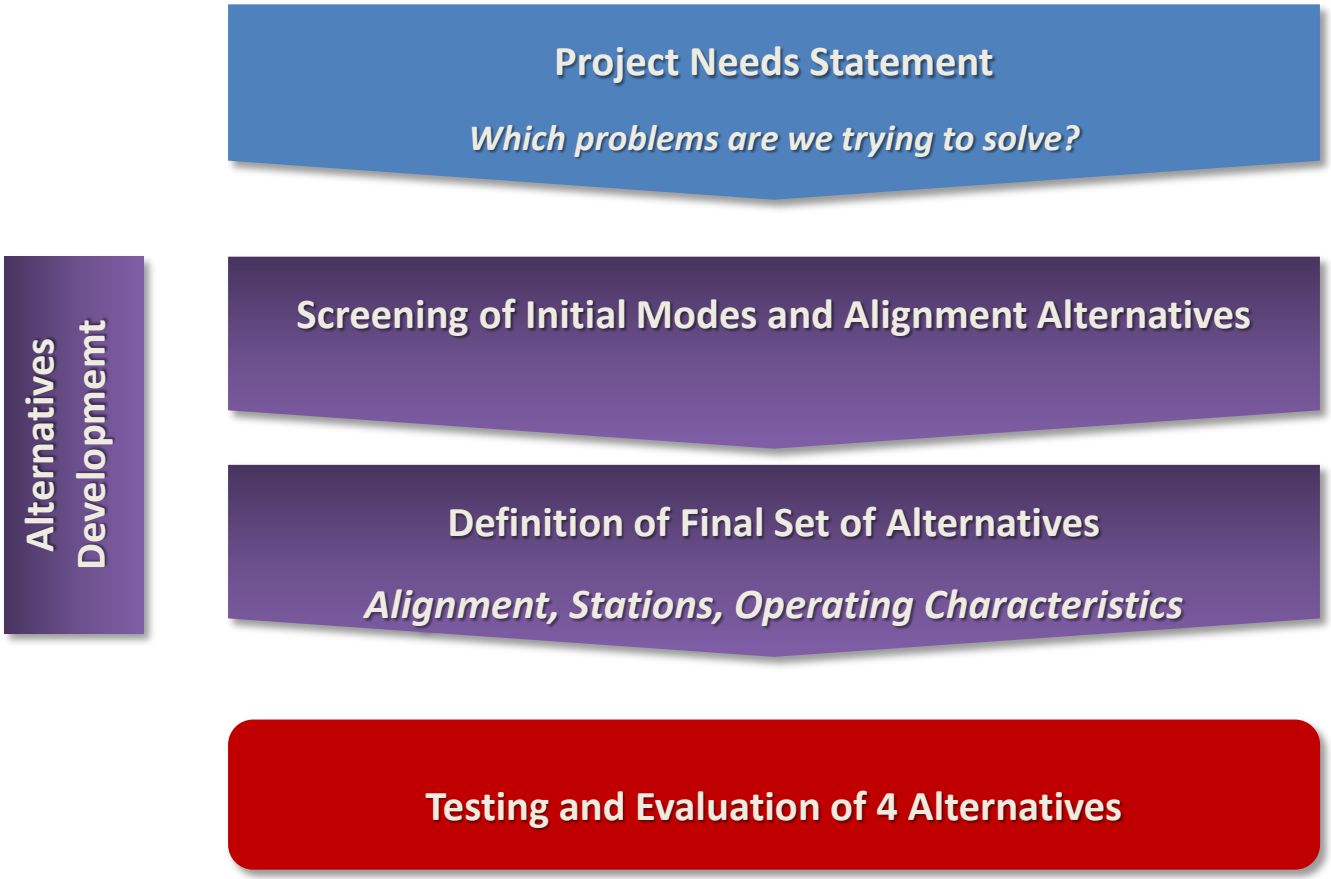


On-Line Survey

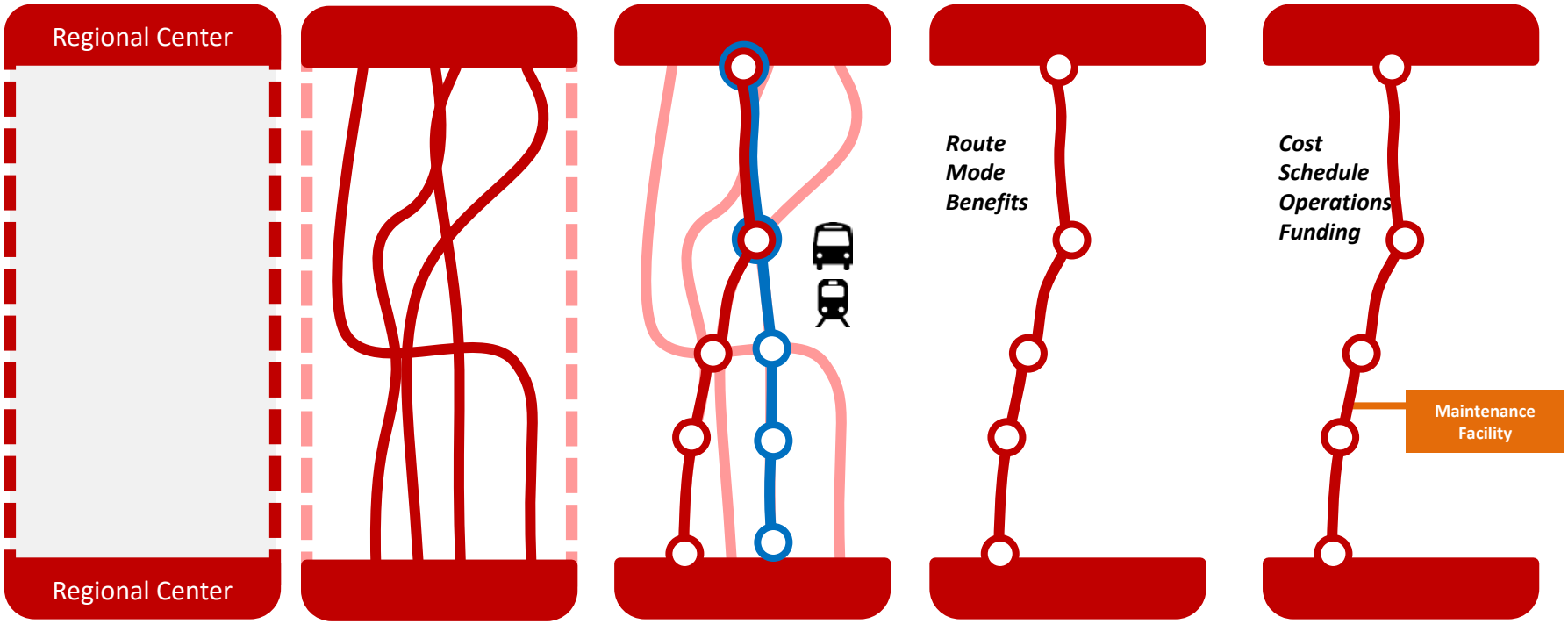
- Objectives:
  - Identify/confirm transit improvement needs in the corridor – for riders and non-riders
  - Identify changes pre-Covid vs. post-Covid
  - Assess stakeholder interest in possible transit alternatives – to help screen potential alternatives
  - Provide opportunity for other stakeholder feedback on study
- Survey Distribution:
  - Email distribution lists
  - DRPT website
  - Social media

Alternatives Development Process

Alternatives Development



Typical Alternatives Analysis Process



Corridor / Study Area

Conceptual Alternatives

Detailed Alternatives

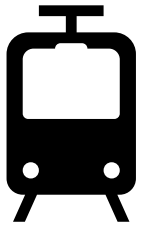
Preferred Alternative

Defined Project

DRPT

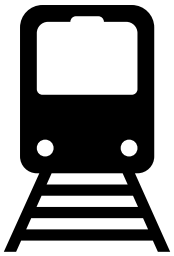
Potential Transit Modes

Transit Modes



Light Rail Transit

Express Bus / BRT



VRE Commuter Rail

Metrorail Rapid Transit

- Metrorail
- Commuter Rail
- Light Rail Transit (LRT)
- Bus Rapid Transit (BRT)
- Express Bus
- Local Bus Improvements

Screening Criteria:

- Ability to Serve Corridor Travel Markets
- Consistency of Service Levels and Capacity with Demand Profile
- Compatibility with Corridor Land Use
- Cost Effectiveness (Capital and Operating)
- Connectivity to Existing System

DRPT

Meeting Wrap-Up

Schedule for Future TAC Meetings

TAC #	Month	Topics to Be Covered
5	Mar. 2021	• Transit Alternatives Development and Evaluation Criteria (Task 7)
6	Apr. 2021	• Transit Alternatives Development (Task 7) • Cost/Revenue/Subsidy Methodology (Task 10)
7	May 2021	• Testing of Alternatives – Initial Results (Task 8)
8	Jun. 2021	• Testing of Alternatives – Refinements and Sensitivity Tests (Task 8) • Legal Considerations (Task 9) • Cost/Revenue/Subsidy Projections (Task 10)
9	Jul. 2021	• Summary of Transit Alternatives Results (Task 11)
10	Aug.2021	• Draft Study Findings and Recommendations (Task 12)

DRPT

Additional Slides

Transit Mode Comparison (Bus)

	Typical Operations	Right-of-Way Options	Stops/ Stations	Peak Hour Direction Capacity	O&M Costs	Capital Costs	Similar Systems
Enhanced Bus	Headways: 5 to 20 minutes 20 mph mixed traffic, 50 to 55 mph in exclusive right-of-way	Mixed traffic; some signal priority	Distinctive shelters, signage, variable message signage Spacing ½ to 1 mile	180 to 1,100	Low-Medium	Low-Medium	REX Charlotte Sprinter Kansas City MAX Los Angeles MetroRapid
Bus Rapid Transit (BRT)	Headways: 5 to 10 minutes Up to 50 to 55 mph in exclusive right-of-way	Exclusive right-of-way with signal priority	Distinctive shelters, signage, variable message signage, TVM Spacing 1/2 to 1 mile	300 to 2,100	Medium	Medium	CC-PY Metroway Los Angeles Orange Line Eugene, OR Emx Cleveland HealthLine
Express/ Commuter Bus	Peak Period Headways: 10-30 mins Up to 65 mph in freeway express lanes	Some mixed traffic; then exclusive ROW closed-door service	Park & Ride lots; stops clustered at home end and downtown	Per route: 80-240	Low-Medium	Low-Medium	OmniRide Loudoun County Bus

DRPT

Transit Mode Comparison (Rail)

	Typical Operations	Right-of-Way Options	Stops/ Stations	Peak Hour Direction Capacity	O&M Costs	Capital Costs	Similar Systems
Metrorail	Peak headways: 6-8 mins; Off-Peak headways: 12-15 mins Up to 60 mph; system average of 35 mph	Fully exclusive ROW	1-2 mile spacing in suburbs	8,000 (6-min hdwy); 20,800 max.	High	High	BART MARTA
Light Rail Transit (LRT)	Headways: 5 to 10 minutes Up to 60 mph maximum in exclusive right-of-way	Exclusive right-of-way with signal priority	Distinctive shelters, signage, variable message signage, TVM Spacing 1/2 to 1 mile	1,400 to 2,800	Medium-High	Medium-High	Houston METRORail Charlotte LYNX Rapid Transit Phoenix METRO
Commuter Rail	Headways: 30 to 60 minutes 50 mph (average), 79 mph (maximum)	Exclusive right-of-way	Platforms, shelters, signage, TVM Spacing 3 to 5+ miles	1,000 to 2,000	Medium	Medium	VRE Austin Capital MetroRail Trinity Railway Express

DRPT