

April 9, 2025

RIPTA Metro Connector

Technical Working Group (TWG) Meeting #4

Zachary Agush, RIPTA with Support from
ASG Planning and Nelson\Nygaard





Today's Agenda

- 1 Welcome and Meeting Purpose
- 2 Tier 1 Evaluation Results
- 3 WORKSHOP on Shortlisting Alternatives
- 4 Next Steps and Adjourn



Welcome and Meeting Purpose

Purpose of Today's Meeting:

Today is the fourth of six anticipated Technical Working Group meetings.

We will roll up our sleeves with you today, to facilitate a workshop around identifying a shortlist of alternatives. Your input is really important as we get ready for our next round of Public Outreach.

Reminder of our Charge

- The TWG serves as an advisory group to the Project Management Team (PMT).
- This is the 4th of six meetings envisioned to occur over the 18-month project, at key project milestones.

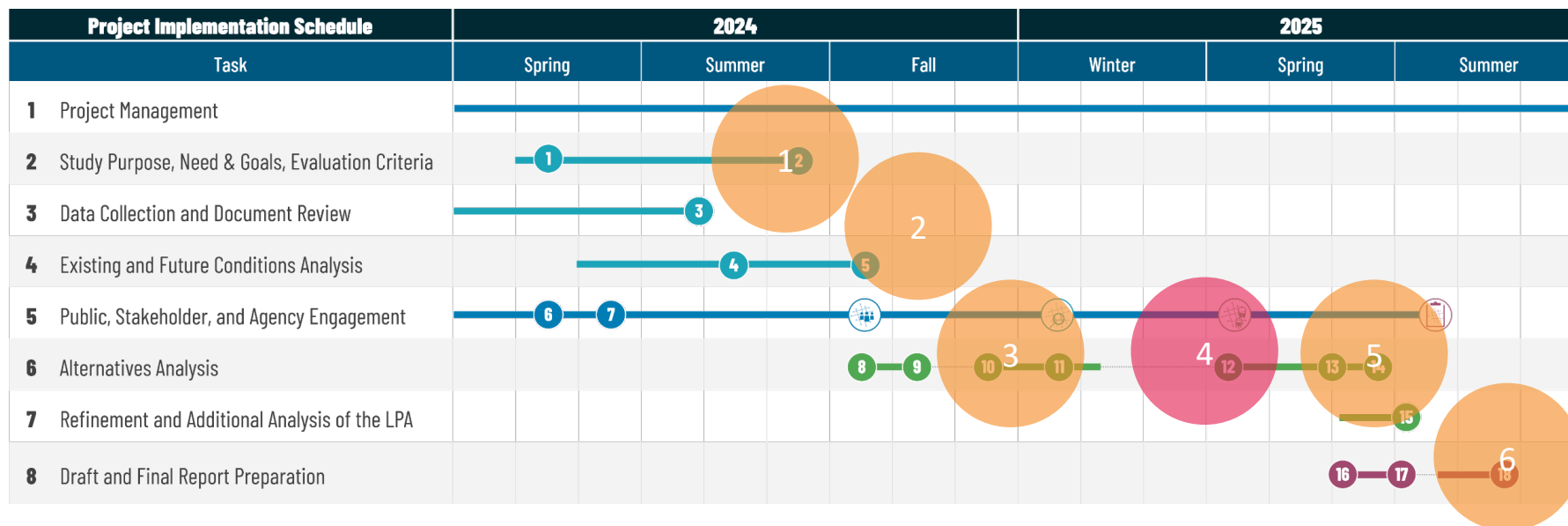
Key TWG Roles

- Serve as a sounding board for technical decisions.
- Raise local concerns, issues and/or opportunities.
- Make sure we provide good answers and help craft solutions.
- Help us engage a broad and representative sector of the community.
- Serve as a conduit to decision makers in your community or at your agency.
- **Think Regionally!**

Reminder of TWG Participation

Entity	Representatives
Key Agency Partners	RIPTA, RIDOT, FTA
Municipal Partners	Cumberland, Central Falls, Pawtucket, Providence, Cranston, Warwick
Other State and Quasi-Agency Partners	Statewide Planning, Commerce, Health, Housing, Environmental Management
Community Groups	RI Transit Riders, Convention Center Bureau, PVD Streets Coalition, West Bay CAP, PCF Development

Reminder of When We Meet



KEY MILESTONES AND DELIVERABLES

- 1 Draft Purpose and Needs Statement
- 2 Draft Evaluation Framework
- 3 Draft Plan and Policy Review
- 4 Draft State of the System Report
- 5 Final State of the System Report
- 6 Stakeholder Interviews
- 7 Walking Tour

- 8 First Round of Outreach - Early Scoping
- 9 Second Round of Outreach - Shortlisting Alternatives
- 10 Third Round of Outreach - Towards Set of LPAs
- 11 Fourth Round of Outreach - Towards Implementation
- 12 Universe of Concepts
- 13 Screen Against Purpose & Needs
- 14 Develop Long List of Ideas
- 15 Tier 1 Evaluation

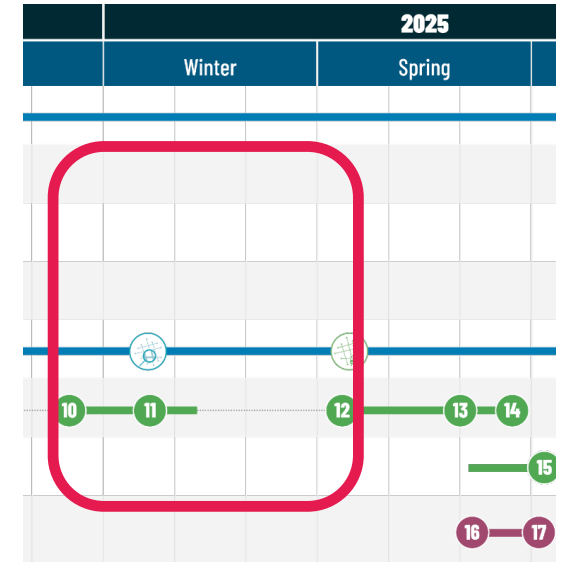
- 16 Develop Shortlist of Alternatives
- 17 Tier 2 Evaluation
- 18 Draft LPA
- 19 Refined LPA
- 20 Implementation Plan
- 21 Draft Final Report
- 22 Final Report



Tier 1 Evaluation Results

Since We Last Met, We...

- Finalized our Future No-Build assumptions
- Updated our Public Involvement Plan to incorporate lessons learned from Phase 1, incorporate our Equity Framework, and to prepare for Phase 2
- Completed an evaluation of all our Tier 1 concepts
- Have met with each municipality to share the findings from Tier 1
- Began to develop ideas around a shortlist of Tier 2 alternatives
- Prepared our public engagement materials and information for the upcoming round (launching April 21!)
- Prepared our Equity Framework to guide both public outreach and technical analysis



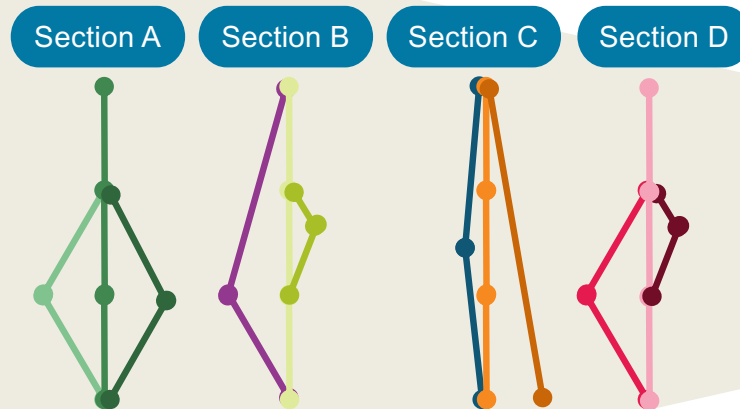
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Step A: Screening



Review a wide range of ideas and remove those that don't meet the project purpose

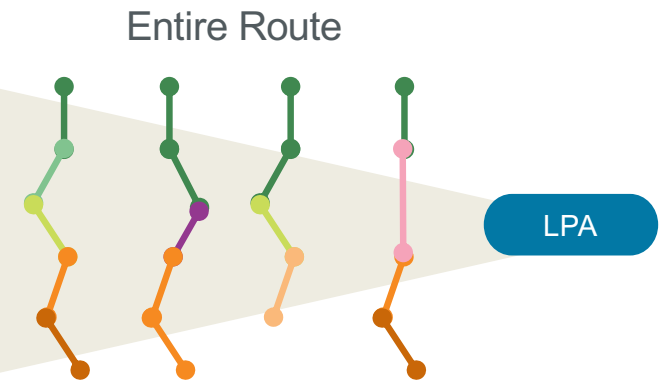
Step B: Tier 1 Evaluation



Test different alignments in each section

We are here!

Step C: Tier 2 Evaluation



Test best alignments as complete route

Note: Alignments shown above are illustrative only, and not intended to represent any specific alignments.

Reminder of Where We've Been:

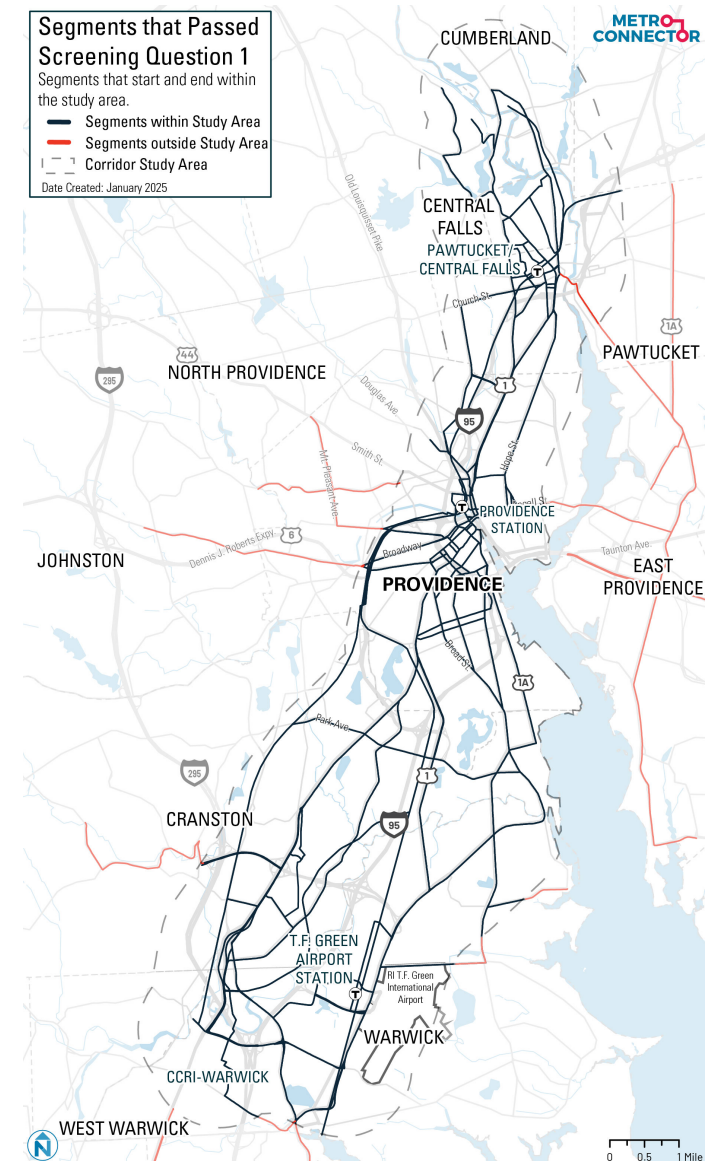
Step A - Screening Questions

1. Does the concept start and end within the study area?
2. Does the concept connect **key** existing and/or planned activity centers in the study area municipalities ***or*** does the concept serve areas with land-use **density to support** rapid transit now or in the future?
3. Could the concept be **permitted** from an environmental perspective?
4. Would the concept be within a corridor with **transit-supportive** zoning, or where zoning could change to be transit-supportive?
5. Does the concept connect contiguously with other segments that answered 'yes' to questions 2 – 4 to create viable corridors for rapid transit service?

Reminder of Where We've Been: Step A - Screening Questions

Does the concept start and end in the project study area?

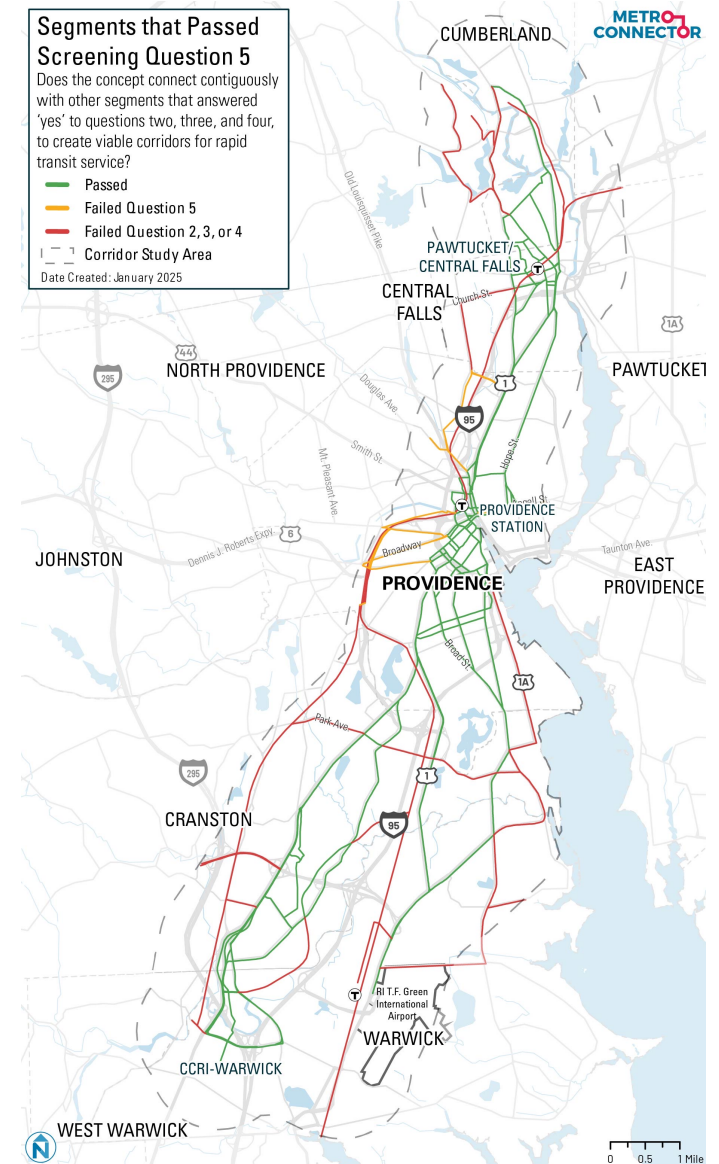
- Universe included lines drawn by the public that did not serve the study area
- Want to make it clear to the public that some of these corridors are candidates for high-quality transit service, just not this particular project
- **34 of 246 concepts failed this question – 212 remaining went through full screening process**



Reminder of Where We've Been: 158 Concepts Remained after Screening

Segments that passed all five questions moved on to the Tier 1 evaluation.

- 35 of 212 concepts failed question 2, 3, and/or 4
- 19 of the remaining concepts failed question 5
- **158 concepts remained after the full screening**



Where We've Been: Tier 1 Evaluation Criteria

- More in depth criteria to differentiate corridors from one another in terms of suitability for rapid transit – particularly for those within the same section
- All parts of the project purpose and all five of our project goals are reflected

Goal Area	Evaluation Criterion
1. Grow Transit Ridership: Connect areas that have high demand for transit by providing fast, frequent, and reliable service that is competitive with driving.	<p>1.1 Average composite transit demand within 1/4 mile (using methods in market analysis; based on pop. density, socio-economic characteristics, emp. density, and industry type), weighted by geography area</p> <p>1.2 Percent of acres within 1/4 mile that can support 15-min. or better all-day service (30 or more)</p>
2. Enhance Connectivity: Improve multi-modal connections between regional transportation centers and support Complete Streets that provide for safe pedestrian and bicycle access.	<p>2.1 Potential/plans for exclusive right-of-way or other transit priority (extent of potential dedicated space)</p> <p>2.2 Intersection density within 1/4 mile (Intersections/acre)</p>
3. Focus on Equity: Provide rapid transit where and when transit-critical populations are traveling, that allows these residents to stay in their neighborhoods.	<p>3.1 Transit index factor (weighted likelihood for residents to take transit based on race/ethnicity, vehicle ownership, native or foreign born, and income)</p> <p>3.2 Non-traditional commuter density within 1/4 mile (LEHD)</p> <p>3.3 Density of job held by women within 1/4 mile (LEHD)</p> <p>3.4 Density of equity trip origins and destinations within 1/4 mile (zero vehicle, low-income, and/or people of color) (Replica)</p>
4. Support Sustainable Growth: Support smart and compact transit-oriented development (TOD) in designated growth districts and frequent transit corridors. Reduce GHG emissions by encouraging mode-shift to transit, walking, and biking.	<p>4.1 Average future (2035) composite transit demand within 1/4 mile (using methods in market analysis; based on pop. density, socio-economic characteristics, emp. density, and industry type), weighted by geography area</p> <p>4.2 Percent of acres in the future (2035) within 1/4 mile that can support 15-min. or better all-day service (15 or more)</p>
5. Support our Economy/Provide New Opportunities: Improve access to regional employment, workforce education, medical and social services, shopping, and other activities to open up new opportunities for regional residents.	<p>5.1 Employment density within 1/4 mile (RISP)</p> <p>5.2 Density of jobs with customers, clients, patients, and students within 1/4 mile (centers of activity)(LEHD)</p>
6. Focus on Practical and Implementable Solutions: Achieve local consensus on an option that balances costs and benefits, aligns with local goals, and can be reasonably implemented.	<p>6.1 Magnitude of infrastructure change needed to gain dedicated space (difficulty of reallocating space)</p> <p>6.2 Number of policy and regulatory changes needed for service to operate in terms of type (zone change, road class change, etc.) and decision body.</p> <p>6.3 Sensitive environmental features impacted (if any) in terms of amount and type of impact, and ability for impact to be fully mitigated</p>



Where We've Been: Tier 1 Evaluation Criteria

- More in depth criteria to differentiate corridors from one another in terms of suitability for rapid transit – particularly for those within the same section
- All parts of the project purpose and all five of our project goals are reflected
- **Blue criteria reflect underlying transit demand and are quantitative and can be combined through indexing. We'll show you combined results for blue criteria**

Goal Area	Evaluation Criterion
1. Grow Transit Ridership High demand for transit and reliable service	1.1 Average composite transit demand within 1/4 mile (using methods in market analysis; based on pop. density, socio-economic characteristics, emp. density, and industry type), weighted by geography area
2. Enhance Connections connections between transit and support Community, pedestrian and bicycle	1.2 Percent of acres within 1/4 mile that can support 15-min. or better all-day service (30 or more) 2.2 Intersection density within 1/4 mile (Intersections/acre)
3. Focus on Equity when transit-critical allows these residents	3.1 Transit index factor (weighted likelihood for residents to take transit based on race/ethnicity, vehicle ownership, native or foreign born, and income) 3.2 Non-traditional commuter density within 1/4 mile (LEHD) 3.3 Density of job held by women within 1/4 mile (LEHD)
4. Support Sustainable compact transit-oriented designated growth corridors. Reduce mode-shift to transit	3.4 Density of equity trip origins and destinations within 1/4 mile (zero vehicle, low-income, and/or people of color) (Replica)
5. Support our Economic Improve access to education, medical other activities to regional residents	4.1 Average future (2035) composite transit demand within 1/4 mile (using methods in market analysis; based on pop. density, socio-economic characteristics, emp. density, and industry type), weighted by geography area 4.2 Percent of acres in the future (2035) within 1/4 mile that can support 15-min. or better all-day service (15 or more)
6. Focus on Practical Achieve local costs and benefits reasonably implemented	5.1 Employment density within 1/4 mile (RISP) 5.2 Density of jobs with customers, clients, patients, and students within 1/4 mile (centers of activity)(LEHD)

Where We've Been: Tier 1 Evaluation Criteria

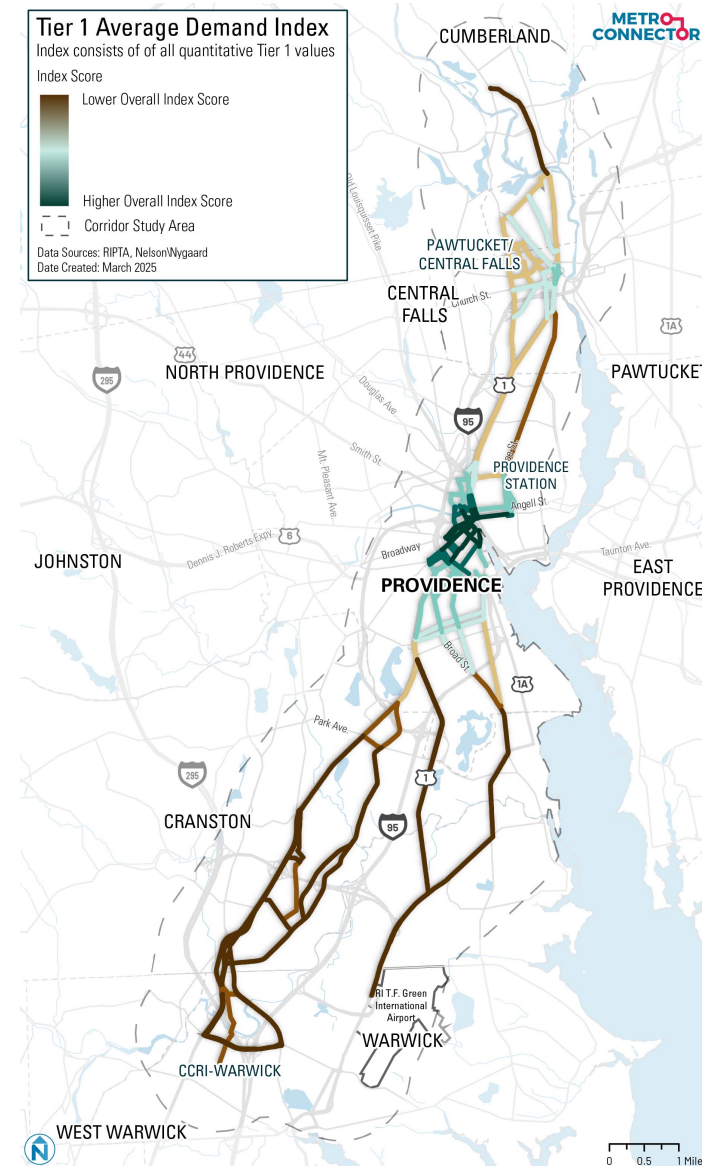
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- Blue criteria reflect underlying transit demand and are quantitative and can be combined through indexing. We'll show you combined results for blue criteria
- **Yellow criteria are qualitative and considered separately**

Goal Area	Evaluation Criterion
1. Grow Transit Ridership: Connect areas that have high demand for transit by providing fast, frequent, and reliable service that is competitive with driving.	1.1 Average composite transit demand within 1/4 mile (using methods in market analysis; based on pop. density, socio-economic characteristics, emp. density, and industry type), weighted by geography area 1.2 Percent of acres within 1/4 mile that can support 15-min. or better all-day service (30 or more)
2. Enhance Connectivity: Improve multi-modal connections between regional transportation centers and support Complete Streets that provide for safe pedestrian and bicycle access.	2.1 Potential/plans for exclusive right-of-way or other transit priority (extent of potential dedicated space) 2.2 Intersection density within 1/4 mile (Intersections/acre)
3. Focus on Equity: Ensure that transit service is accessible to all when transit service is available, and that transit service is accessible to all when transit service is available.	2.1 Potential/plans for exclusive right-of-way or other transit priority (extent of potential dedicated space) 6.1 Magnitude of infrastructure change needed to gain dedicated space (difficulty of reallocating space) 6.2 Number of policy and regulatory changes needed for service to operate in terms of type (zone change, road class change, etc.) and decision body.
4. Support Sustainable Growth: Support compact transit designated growth corridors. Reduce GHG emissions by encouraging mode-shift to transit, walking, and biking.	6.3 Sensitive environmental features impacted (if any) in terms of amount and type of impact, and ability for impact to be fully mitigated 4.2 Percent of acres in the future (2035) within 1/4 mile that can support 15-min. or better all-day service (15 or more)
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Tier 1: Demand-Based Results

Demand-based measures reflect that HCT should serve the areas with the density of people and jobs to support it.

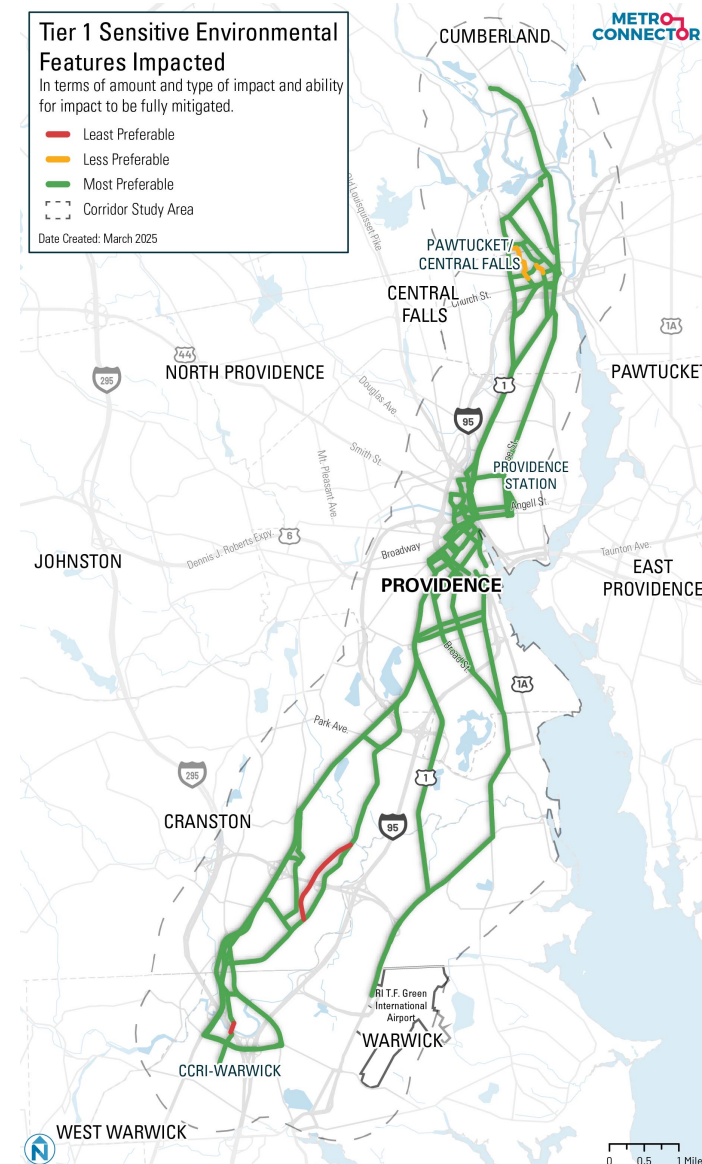
- As a result, demand-based results closely resemble the underlying existing demand for transit
- Strongest scoring segments are in and near Downtown Providence
- High scoring areas include most areas of Providence and Pawtucket, except Hope Street and Elmwood Avenue south of Reservoir Avenue
- Demand based results are lowest south of the Providence/Cranston border and in Cumberland



Criterion 6.3 Results : Sensitive Environmental Features Impacted

Environmental measures reflect that HCT should be permissible from an environmental perspective.

- The vast majority of Tier 1 segments would not impact sensitive environmental features
- A handful of less-preferable segments in Pawtucket and Central Falls that cross active rail right-of-way
- Two least-preferable segments in southern section of study area:
 - Unused rail right of way in Cranston
 - Crossing Pawtuxet River



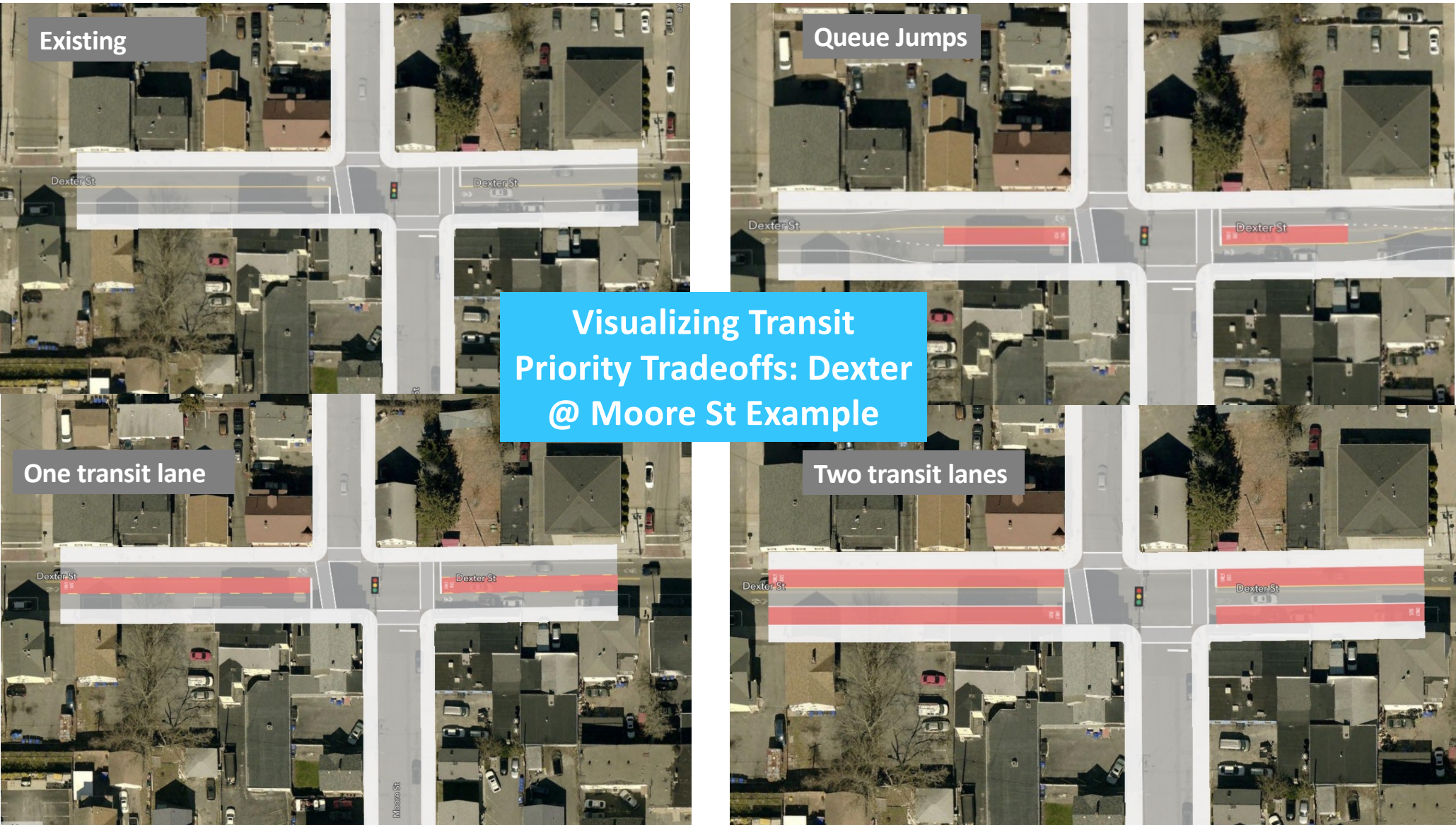
Existing

Queue Jumps

One transit lane

Two transit lanes

Visualizing Transit
Priority Tradeoffs: Dexter
@ Moore St Example





Workshop on Draft Tier 2 Alternatives

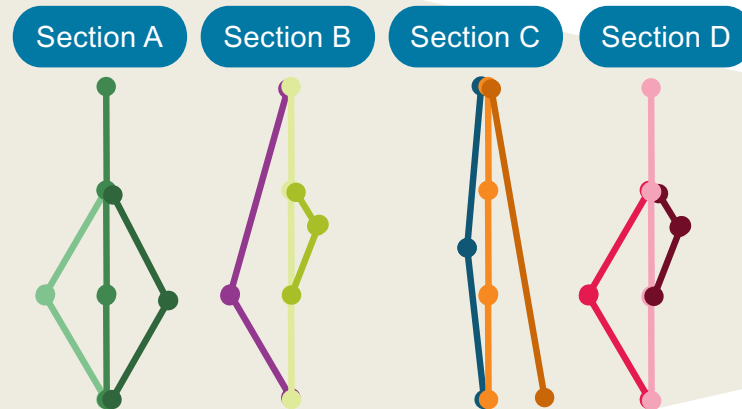
We're getting prepared to test the best Tier 1 alignments as complete BRT or LRT routes

Step A: Screening



Review a wide range of ideas and remove those that don't meet the project purpose

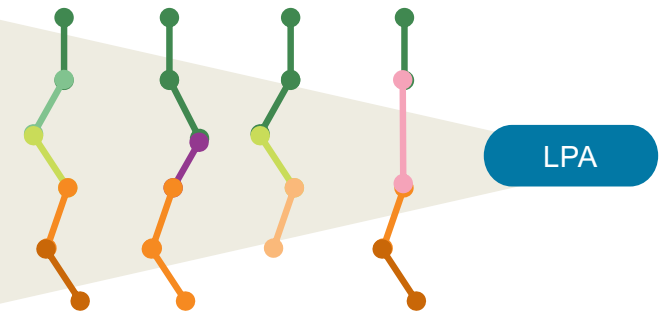
Step B: Tier 1 Evaluation



Test different alignments in each section

Step C: Tier 2 Evaluation

Entire Route



We are here!

Note: Alignments shown above are illustrative only, and not intended to represent any specific alignments.

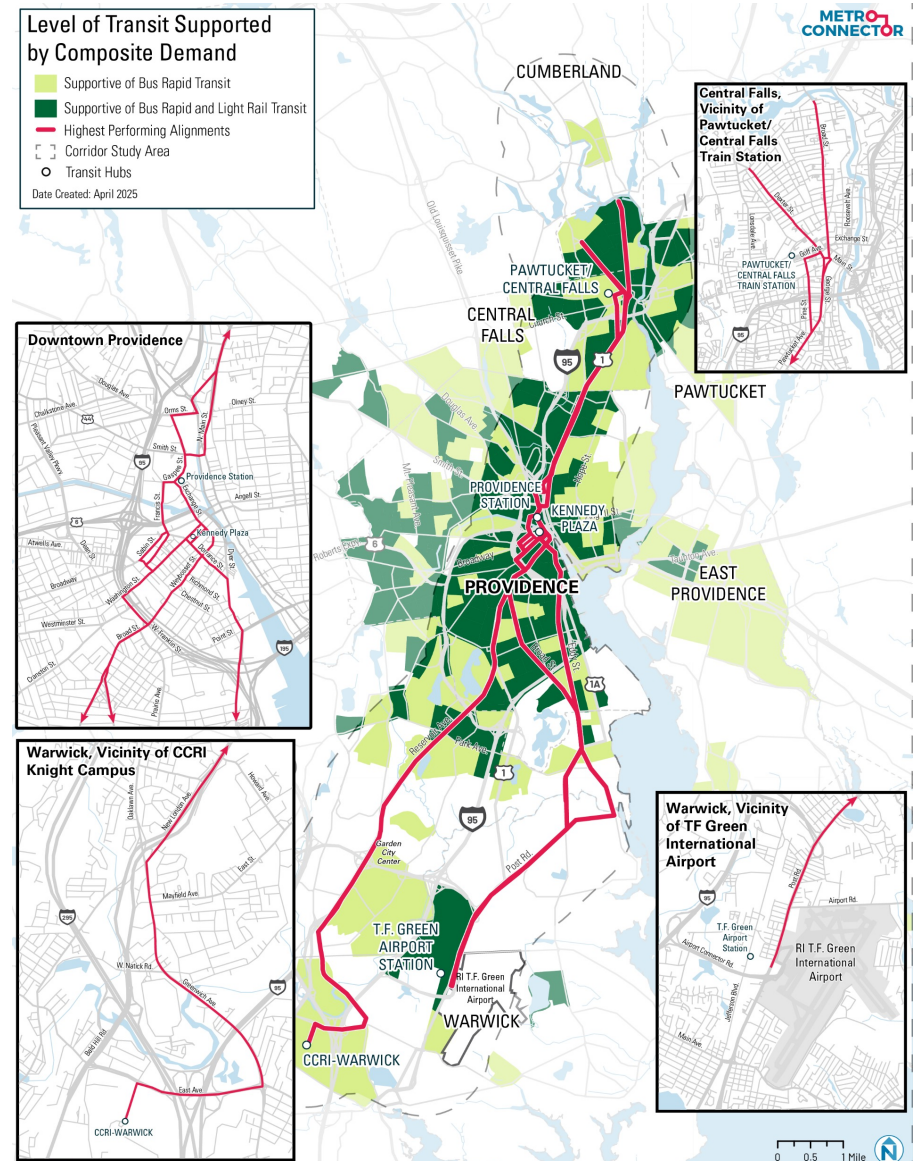
Split into Three Groups, Please!

- Groups are organized to optimize geographic diversity, because we will be looking at end-to-end alternatives

Group 1	Group 2	Group 3
Facilitator: Suzie	Facilitator: Theresa	Facilitator: Anne
Zach Agush, RIPTA	Sarah Ingle, RIPTA	Ella Ackerman, RIPTA
Ry, City of Providence	Dylan Giles, Providence Streets Coalition	Jess Lance, City of Providence
Michele King, RIDOT	Liza Burkin, Office of Statewide Planning	Lilly Picchione, RIDOT
Jonas Bruggeman, City of Cranston	Tom Kravitz, City of Warwick	Deb, Health
Josh Berry, Housing	Jason Pezzullo, City of Pawtucket	Josh Magnone, City of Central Falls

Our Charge Today

- Think about what we shared from the Tier 1 Evaluation
- What Shortlist of Alternatives does your group feel should move forward?
- You have several items at your tables
 - Big maps
 - Tracing paper
 - Sticky notes
 - Pads of paper
 - Pens and markers
 - Smaller size maps
- We also provide some guidance related to stop spacing, elements of transit priority, and costs



Goal Posts

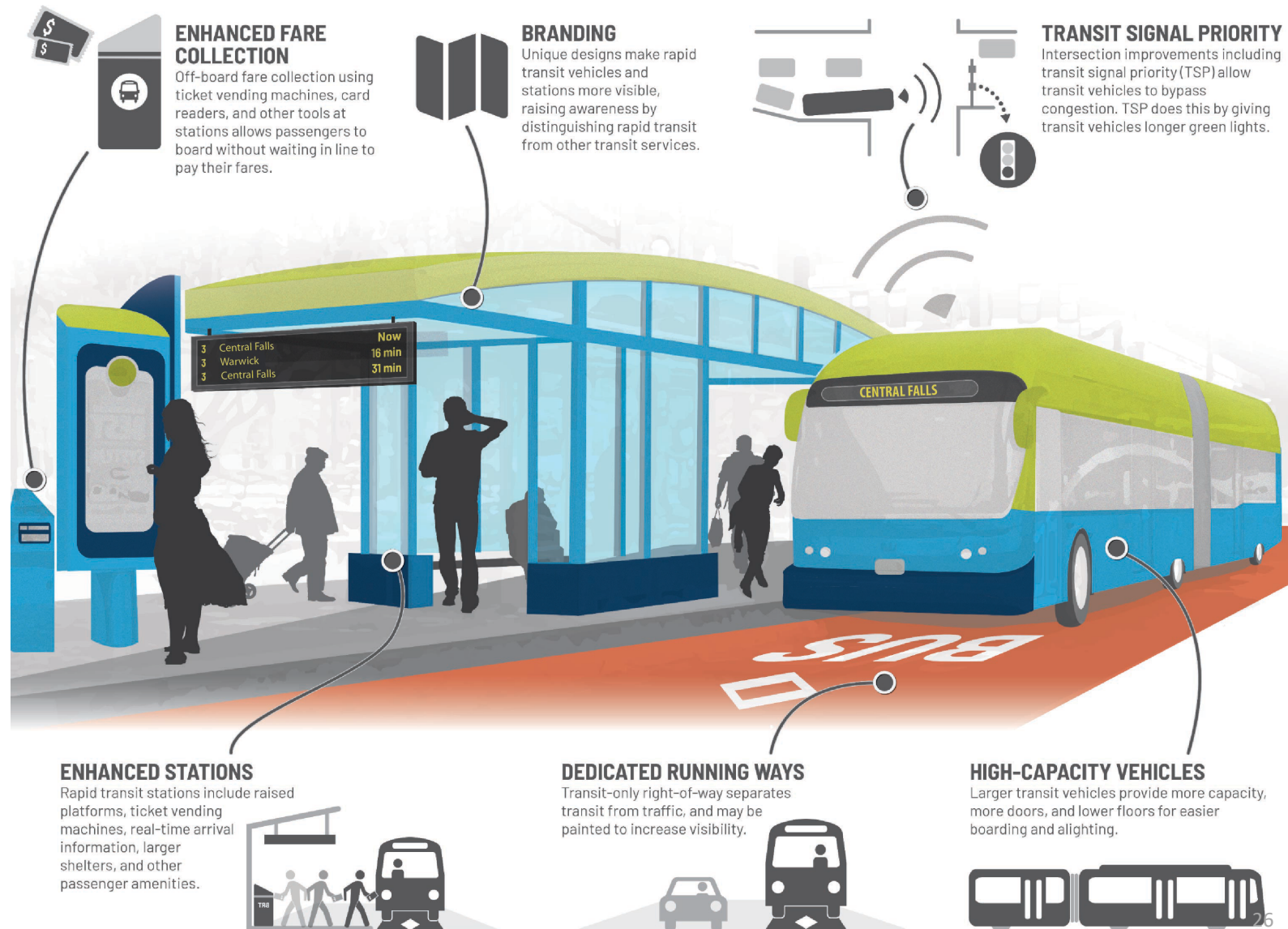
- Noodling is encouraged – take notes in whatever format feels best to you
- Assign someone to draw alternatives on the tracing paper on the large map
 - All on one map
 - Use different color markers
 - If you hate that idea, you can use different tracing paper to represent different alternatives 😊
- Assign someone who will present your ideas to the larger group

Goal Posts

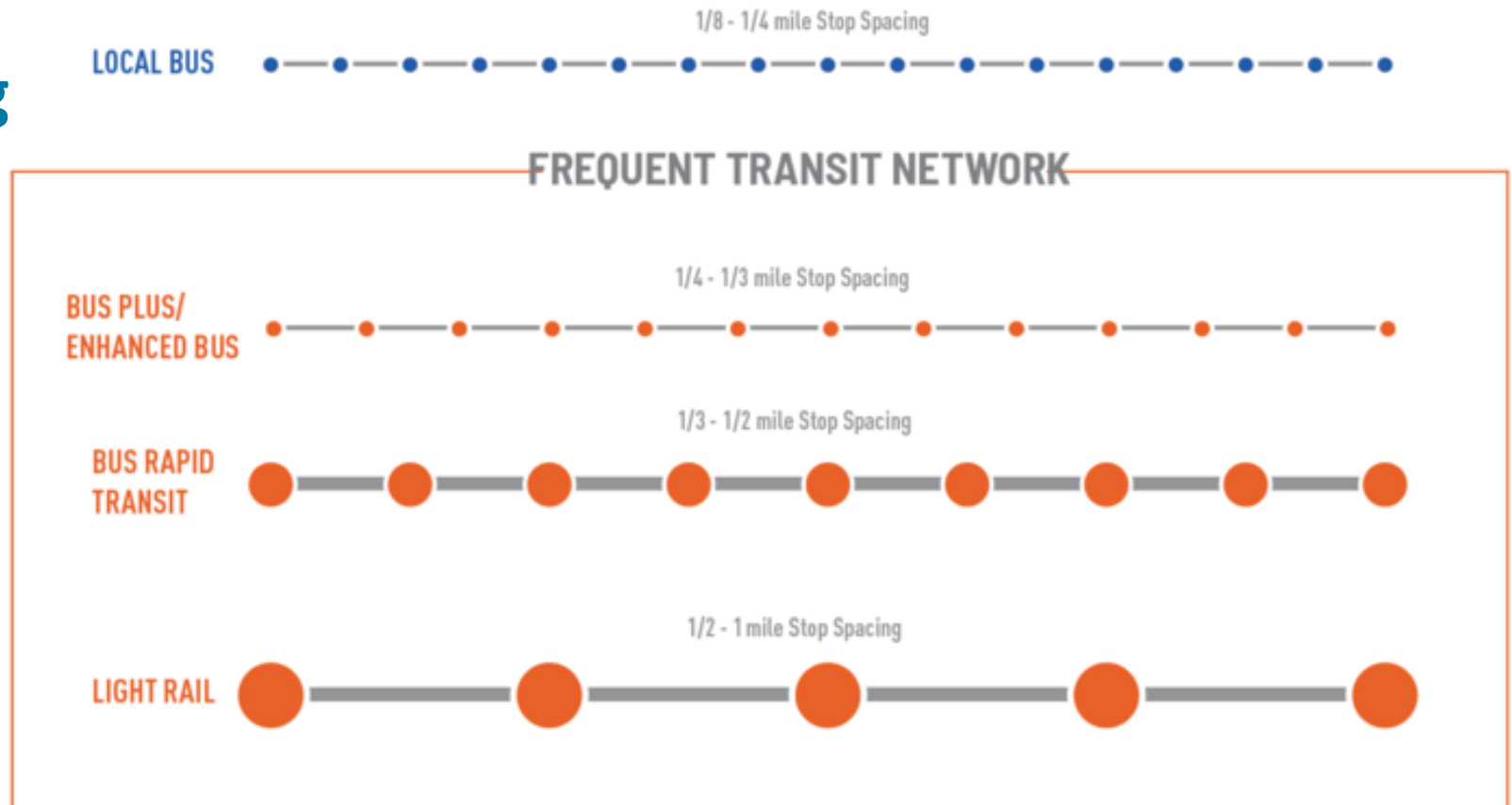
- No more than 4 alternatives, please!
- Consider mode
- Consider beginning and end points
- Consider alignments
- Be okay if you have common alignments in some sections
 - No need to create differences if the Tier 1 results are clear in some sections
 - That said, the Tier 2 provides us with the opportunity to understand benefits and costs of some differences (say travel time vs. cost vs. ridership)
- Align your work with the Tier 1 results AND if they differ, be prepared to provide a justification for where and why

Reminder: what is rapid transit?

*An emphasis on
being **more
competitive with
auto travel**
through speed,
reliability,
capacity,
convenience, and
experience.*



Reminder: Stop spacing differences by mode



Reminder: Differentiators in level of transit priority/amenities by mode

		Rapid Transit		
		Local Bus	Bus Rapid Transit	Light Rail
	Service design			
	Simple route design	✓	✓	✓
	Less frequent stops		✓	✓
	Frequent service	✓	✓	✓
	Branding			
	Early morning to late night	✓	✓	✓
	Special branding		✓	✓
	Transit priority			
	Transit signal priority	✓	✓	✓
	Queue jump lanes	✓	✓	
	Exclusive right-of-way	○	◐	◑
	Stops			
	Enhanced stops	✓	✓	✓
	Real-time passenger information	✓	✓	✓
	Off-board fare collection		✓	✓
	Vehicles			
	Level platform boarding		✓	✓
	Passenger capacity	2 people	3 people	4 people
			<div>✓ Typical features</div> <div>✓ Potential features</div>	<div>✓ Typical features</div> <div>✓ Potential features</div>

Cost Considerations

- A scan of FTA Small Starts and New Starts submissions for the past 5 years has given us a range of capital costs for projects across the United States
- Costs have a HUGE range and depend on things like tunnels, bridges, and environmental mitigation
- That said, there are differences grounded in mode

Light Rail Transit

Costs range from
\$138M to \$1.3B per
mile

Heavy Rail Transit

Costs range from
\$446M to \$1.6B per
mile

Bus Rapid Transit

Costs range from
\$12M to \$174M per
mile

Time for a Report Out!

We have 15 minutes total for report out.

First group, please share your four alternatives.
What differentiates them by mode, alignment,
beginning and end points?

Second and third groups, what different ideas did
you come up with? What was similar?



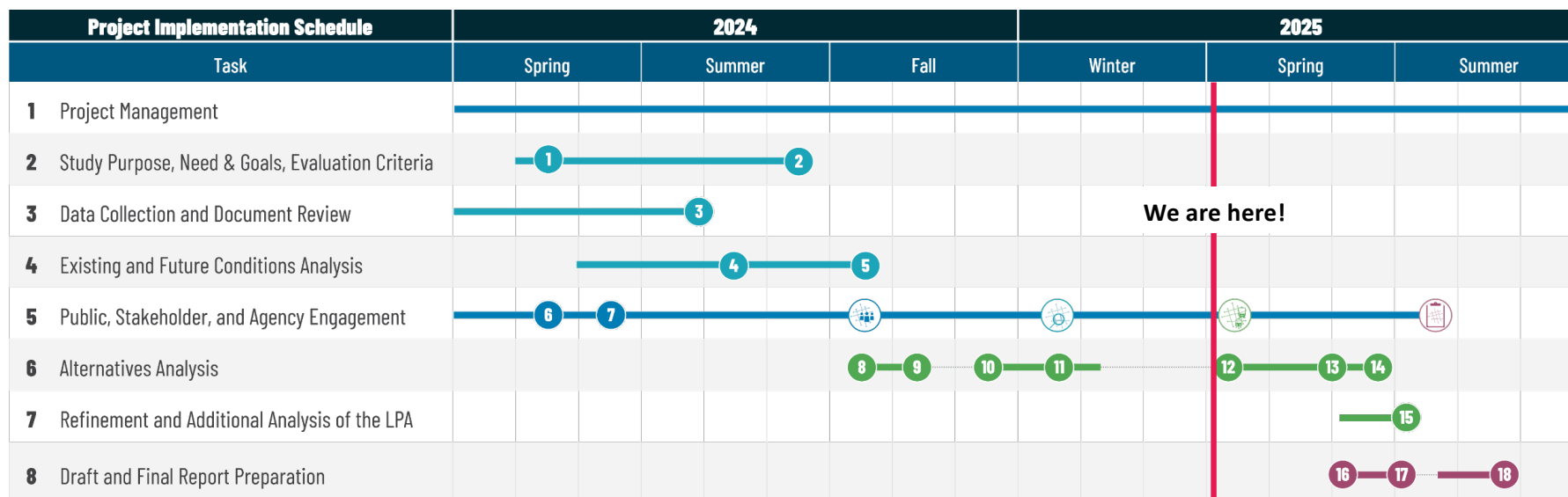
What's Next?

Where we are ultimately headed

- Our work is intended to result in a Locally Preferred Alternative (LPA) which will detail out
 - Preferred mode
 - Preferred alignment
 - Stop locations
 - Order-of-magnitude capital and operating cost estimates
 - Ridership estimates
- The “locally” and “preferred” terms drive our schedule
- A set of successful recommendations will be ones that are supported by all the municipalities along the corridor, as well as RIDOT and other key stakeholders



RIPTA Metro Connector project timeline



KEY MILESTONES AND DELIVERABLES

- 1 Draft Purpose and Needs Statement
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Next Steps

- **Define our Tier 2 alternatives** this spring
- **Complete our Tier 2 analysis** this summer
- **Engage local officials** and other stakeholders in this summer
- **Final round of public outreach** this fall
- **Develop draft LPA(s)** this fall
- **Begin refining LPA(s) and implementation plan** this fall





Thank you!