Northern Virginia Transportation Authority
The Authority for Transportation in Northern Virginia

TECHNICAL ADVISORY COMMITTEE
Wednesday, March 16, 2016, 7:00pm
NVTA Office
3040 Williams Drive, Suite 200
Fairfax, Virginia 22031

AGENDA

I. **Call to Order/Welcome** — Chairman Boice

II. **Meeting Summary of February 17, 2016 Meeting**
Recommended Action: Approval [with abstentions from those who were not present]

Discussion/Information

III. **NVTA Update** — Ms. Backmon, Executive Director

IV. **TransAction Update** — Mr. Jasper, Program Coordinator
Future Scenario Building

Adjournment

V. **Adjourn**

Next Meeting: April 20, 2016
7:00pm
NVTA Office

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TECHNICAL ADVISORY COMMITTEE
Wednesday, February 17, 2015, 7:00pm
NVTA Office
3040 Williams Drive, Suite 200
Fairfax, Virginia 22031

SUMMARY NOTES

I. Call to Order/Welcome Chairman Boice

- Chairman Boice called the meeting to order at 7:00pm.
- Attendees:
  - Members: Chairman Randy Boice; Agnes Artemel; Armand Ciccarelli; Bob Dunphy; Doug Fahl; Kathy Ichter; Meredith Judy; Pat Turner; Shanjiang Zhu.
  - NVTA Staff: Monica Backmon (Executive Director); Keith Jasper (Program Coordinator); Sree Nampoothiri (Program Coordinator).
  - Other: James Davenport (Prince William County); Bruce Goudarzi (City of Manassas); David Roden (AECOM).

II. Meeting Summary of December 16, 2015 Meeting Chairman Boice

- Mr. Boice pointed out a spelling error for correction in the meeting summary notes. Ms. Judy moved to approve the minutes of December 16, 2015 meeting, as amended; seconded by Ms. Artemel. Motion carried unanimously (with abstentions from Mr. Ciccarelli, Mr. Fahl, Ms. Ichter, and Dr. Zhu who were not present at the December 16, 2015 meeting.).

Discussion/Information

III. NVTA Update Ms. Backmon

- Ms. Backmon provided a summary of the January 14th NVTA meeting
  - The Authority has four new members due to election and appointments – Board Member Fisette (Arlington County), Chair Randall (Loudoun County), Mayor Silberberg, (City of Alexandria), and Delegate Hugo (Virginia House of Delegates). The new non-voting town representative is Mayor Foreman, Mayor, Town of Dumfries.
  - The Authority reviewed a number of bills introduced at the during the General Assembly session and discussed the support, opposition, or non-response of the Authority.
  - Some key bills discussed included using population projections vs estimates. A change would impact on allocation of costs for NVTA's operations budget and the population-weighted voting requirements.

    - A bill that would add an additional town representative on the Authority.
    - Another bill would transfer the powers and duties of the Northern Virginia Transportation Commission (NVTC) to the NVTA.
- Mr. Boice asked if the Authority discussed the HB 2 preliminary results released by the State. In response, Ms. Backmon explained that the HB2 rankings were not discussed since the rankings came out after the Authority meeting.
- Ms. Backmon also shared that theI-66/Rt. 28 Interchange is being considered as part of the FY 2017 Program. The State has requested NVTA participation for the I-66 Outside the Beltway Project.

IV. TransAction Update

1. Introductory video — Mr. Jasper

- Mr. Jasper presented the introductory video on TransAction Update.
- Mr. Jasper mentioned that NVTA staff, with the help of jurisdictional staff and consultants, has started presenting this video and introductory notes to appropriate commissions and committees at the jurisdictions.
- Ms. Artemel raised concern that these commissions/committees may not be the appropriate bodies where you will get most public participation.
- Ms. Jasper explained that larger public involvement opportunities are being planned in spring and will include multiple opportunities to achieve public participation.

2. Objectives/Measures — Mr. Roden

- Mr. Roden reminded members that the TAC was briefed earlier on the vision, goals, and objectives of TransAction Update.
- Mr. Roden invited comments from members on the read-ahead material "methods of measuring congestion."
- In response to Dr. Zhu's question on the geography of congestion measurement, Mr. Roden replied that it will be a cumulative of a whole trip that could include links (e.g. road segment) and nodes (e.g. intersections). It also will consider multiple modes for a single trip.
- In response to Ms. Artemel's question, Mr. Roden explained that these measures are currently being used in HB599 evaluation process. However, the decision of which measures to be used will be taken based on inputs from the TAC, the TransAction Subcommittee, and the Authority.
- Mr. Fahl stated that one might expect the longer trips to go faster (e.g. highway) than shorter trips (urban area) and inquired which measure will identify such aspects. Mr. Roden pointed out that measures such as total travel time, travel time index, and percentage congested travel compared to total travel could address this.

- In response to Mr. Ciccarelli's question, Mr. Roden mentioned that the reliability of travel will be captured by measures such as buffer index and planning time index.
- Mr. Roden reminded the TAC that HB2 analysis looks at throughput and delay as measures for commute congestion and a combination of measures being presented here could achieve the same in TransAction.
- In response to Ms. Ichter's comment on the need for measures other than HB599 measures for congestion and accessibility, Mr. Roden mentioned that HB599 measures compare projects while TransAction is aiming to compare alternate scenarios that can result in the best solution for the region.
- Mr. Roden confirmed that the HB599 measures are travel time ratio, travel time in transit, transit crowding, total delay, congestion duration (all congestion measures), total travel time from home to jobs, and emergency mobility (both accessibility measures).
- Mr. Dunphy suggested rewording the goals to make them explicit and less confusing. Since we do not measure quality of life per se, he suggested to revise the first goal as "improve travel time during commuting hours to enhance the quality of life and economic development." The third goal currently sounds negative and could be reworded to sound positive such as "support plans that reduce the need for driving." Mr. Roden agreed to take these suggestion to the TransAction Subcommittee for further consideration.

3. Scope Restructuring Mr. Roden

- Mr. Roden presented the revised scope structure that included a bottom-up process to identify existing and new projects (Task 5), development of future scenarios and corridor solution packages (Task 6), travel demand model runs for validation, baseline, and solution packages (Task 7), and ranking of corridor solutions (Task 8).

4. Analytical Approach Mr. Roden

- Mr. Roden presented the three dimensions of corridor solution/analysis: identifying regional corridors, different solutions/packages for each corridor, and future 'what if' scenarios (travel behavior, technology, and funding).
- In response to Ms. Artemel's query, Mr. Roden elaborated that the corridor package looks at an entire corridor irrespective of jurisdictional boundaries whereas jurisdictional plans and projects often stay within their boundaries. The corridor will include multiple modes, parallel routes, and themes (road, transit, technologies, etc.)
- Mr. Fahl suggested that the analysis considers a scenario where future jobs concentrate in activity centers outside the traditional urban core.
- Mr. Roden affirmed that the scenario-based solutions will be similar to top-down process.
- In response to Mr. Fahl's comment on jurisdictional aspirations to add/drop projects from the solutions, Ms. Backmon mentioned that the TransAction can come up with projects that are not part of any Comprehensive Plan but good

for the region. Mr. Jasper added that the plan will identify needs/solutions for the region.

5. Next Steps

- Mr. Roden mentioned that the next steps include identification of jurisdictional projects (bottom-up), public outreach (schedule is being developed currently), and development of future scenarios.

Adjournment

V. Adjourn Chairman Boice

- Meeting adjourned at 8:21pm.

NVTA's TransAction

Transportation Action Plan for Northern Virginia

TransAction TAC Meeting

March 16, 2016

Focus on Future Scenarios

- Future Scenarios are being proposed for TransAction
  - How Scenarios are being used in the TransAction process
  - Elements/trends being considered in the Future Scenarios
- What are the best ways to communicate this complicated subject to the public?

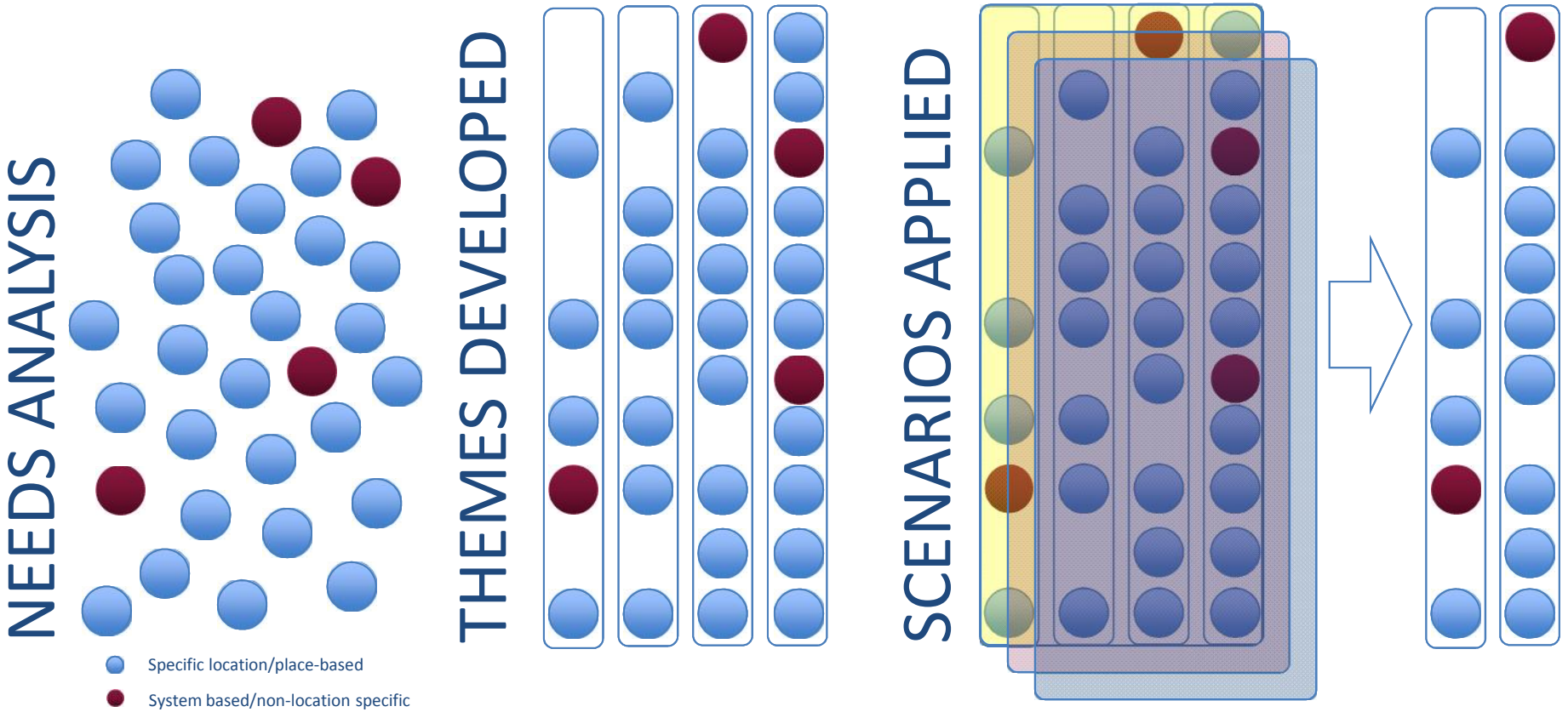
TransAction Process

Additional projects added

Projects organized into themes

Corridor themes tested against scenarios

Recommended corridor themes



NVTA's TransAction

Future Scenarios: Purpose

Scenario analysis considers the transportation impacts of possible future events.

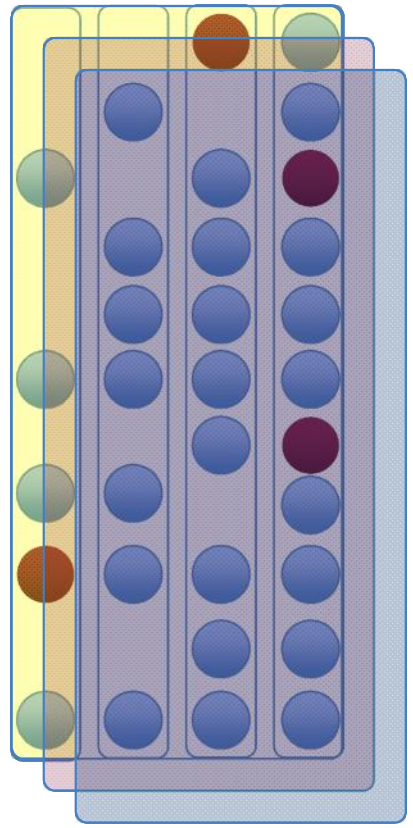
Different future events have similar impacts on the transportation system.

Scenario analysis does not try to show one exact picture of the future, but instead presents consciously different alternative futures from which a range of future outcomes can be estimated.

NVTA's TransAction

Use of Scenarios in TransAction

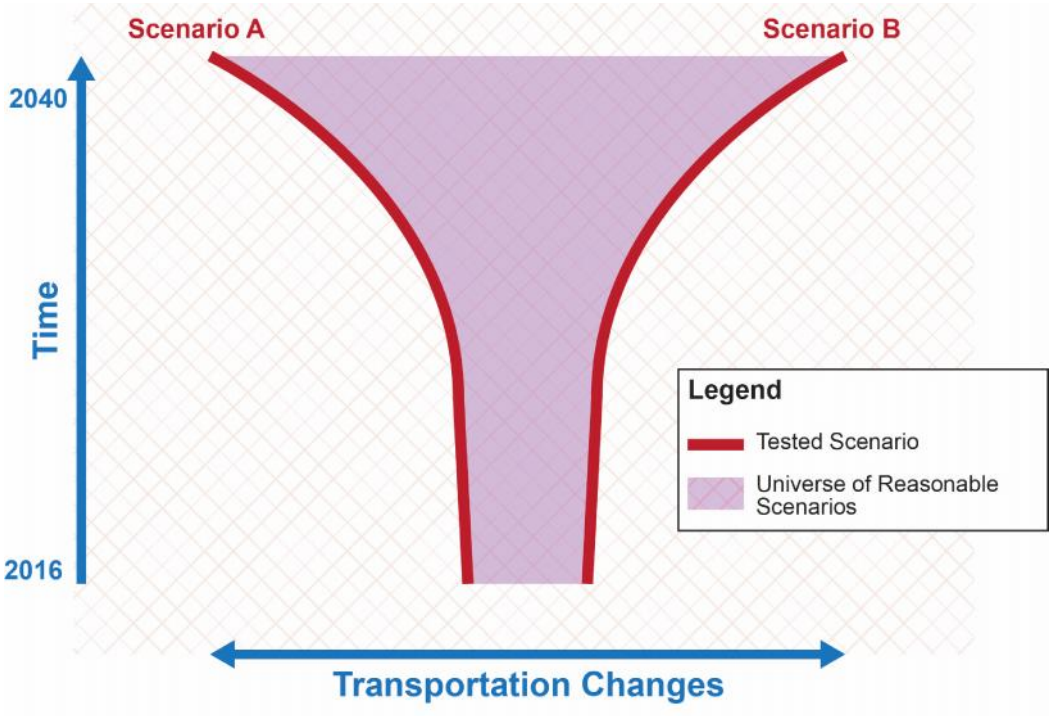
- Needs Assessment
  - Test baseline conditions across scenarios to fully define range of potential needs
  - Use Vtrans2040 Needs Assessments as a starting point
  - Identify differences in needs among future scenarios
- Corridor Solution Packages
  - Test solution packages across scenarios to identify the most effective sets of projects



Future Scenarios: Elements and Trends

- Demographic characteristics (e.g., millennials, boomers)
- Development patterns (e.g., activity centers)
- Activity patterns (e.g., telecommuting, internet shopping)
- Autonomous vehicles / shared travel (e.g., Uber)
- Information / management technologies (e.g., routing or mode choice)
- Policy and legal evolution (e.g., funding, regulations)
- Economic factors (e.g. regional strength and stability, travel costs)
- Freight and goods movement
- Climate change and world events

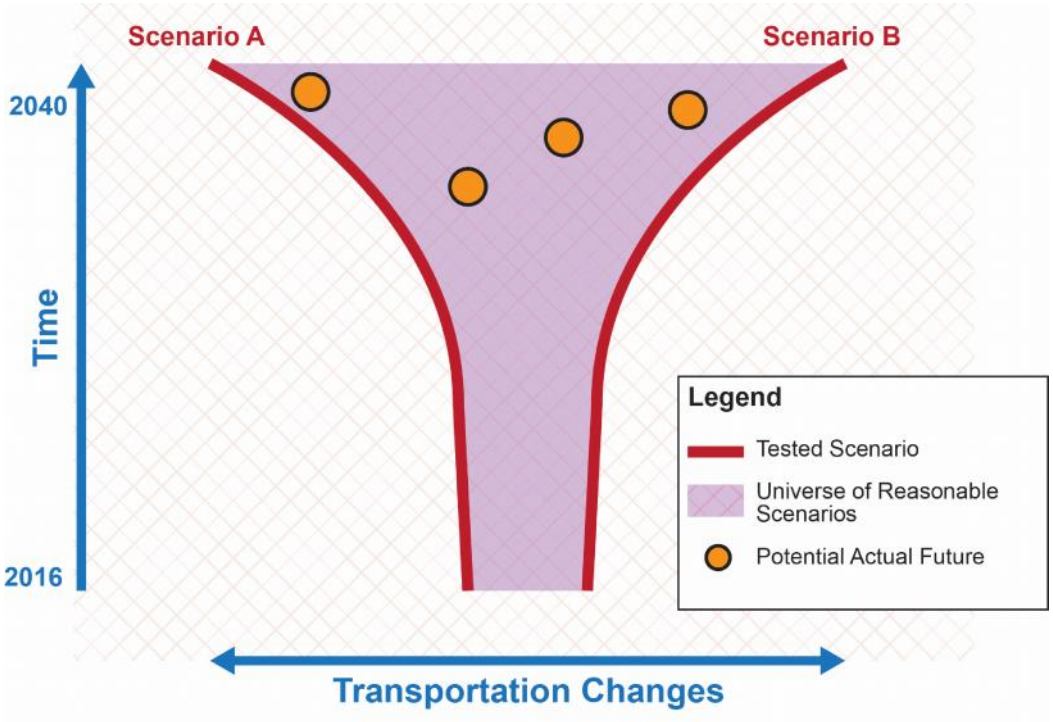
Future Scenarios



- Changes compound over time, so 2040 is less certain than 2030
- Uncertainty means trends could:
  - Take multiple directions
  - Happen in many combinations
  - Have different (or counter-acting effects)

NVTA's TransAction

Future Scenarios



- Our goal:
  - To predict the range of changes that could reasonably be expected by 2040
  - Not to accurately predict the future
- Ultimately will be used to identify corridor solutions that perform well for all potential future changes

NVTA's TransAction

Future A: Technology Increases Vehicle Travel

Significant evolution in vehicle and/or system information and management technologies

- Autonomous vehicles
- Shared travel alternatives (e.g., Uber)
- Traveler Information (e.g., Google maps and real time information about routing and mode choice)
- System management technologies (e.g., dynamic response to congestion and weather conditions)

Potential Transportation Impacts

- *More efficient vehicle travel, less congestion, longer trips, additional options for first/last mile and short trips*

SCENARIOS – FUTURE A

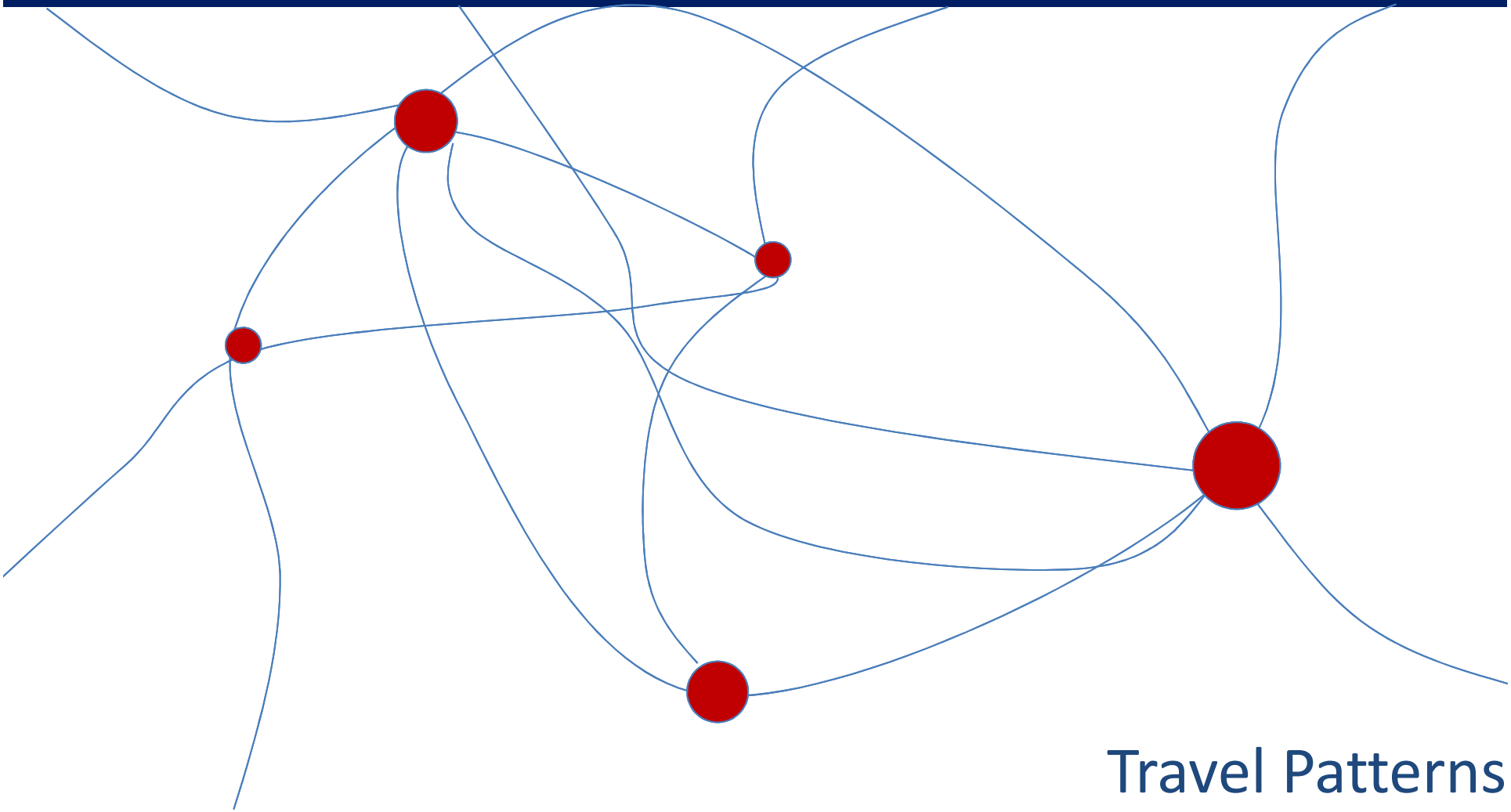
Assumptions

- Technology focused on long-distance applications
- Vehicles continue to be primarily owned by households
- In-Vehicle Time considered to be productive
- Cost of vehicle operations relatively low
- Few demographic shifts to urban households (millennials and retirees prefer suburban living)

Results

- Improved travel speeds and reliability on major roadways
- More diffuse development patterns
- Longer commutes and trip lengths
- Continued reliance on automobile travel
- Vehicles continue to be primarily owned by households
- Similar transit service operations to baseline
- Parking continues to be required at origins and destinations

Future Scenario A



Travel Patterns

NVTA's TransAction

Future B:
People Change their Travel Patterns

Significant changes in trip making

- Millennials/Boomers have a preference for urban living and mixed use activity centers
- Workers are granted more flexible work hours and telecommuting options
- Increased use of internet shopping and home deliveries
- Significant increase in fuel prices or travel costs

Potential Transportation Impacts

- *Less vehicle travel, shorter trips, less peak period travel, additional options for first/last mile and short trips, more delivery vehicles*

SCENARIOS – FUTURE B

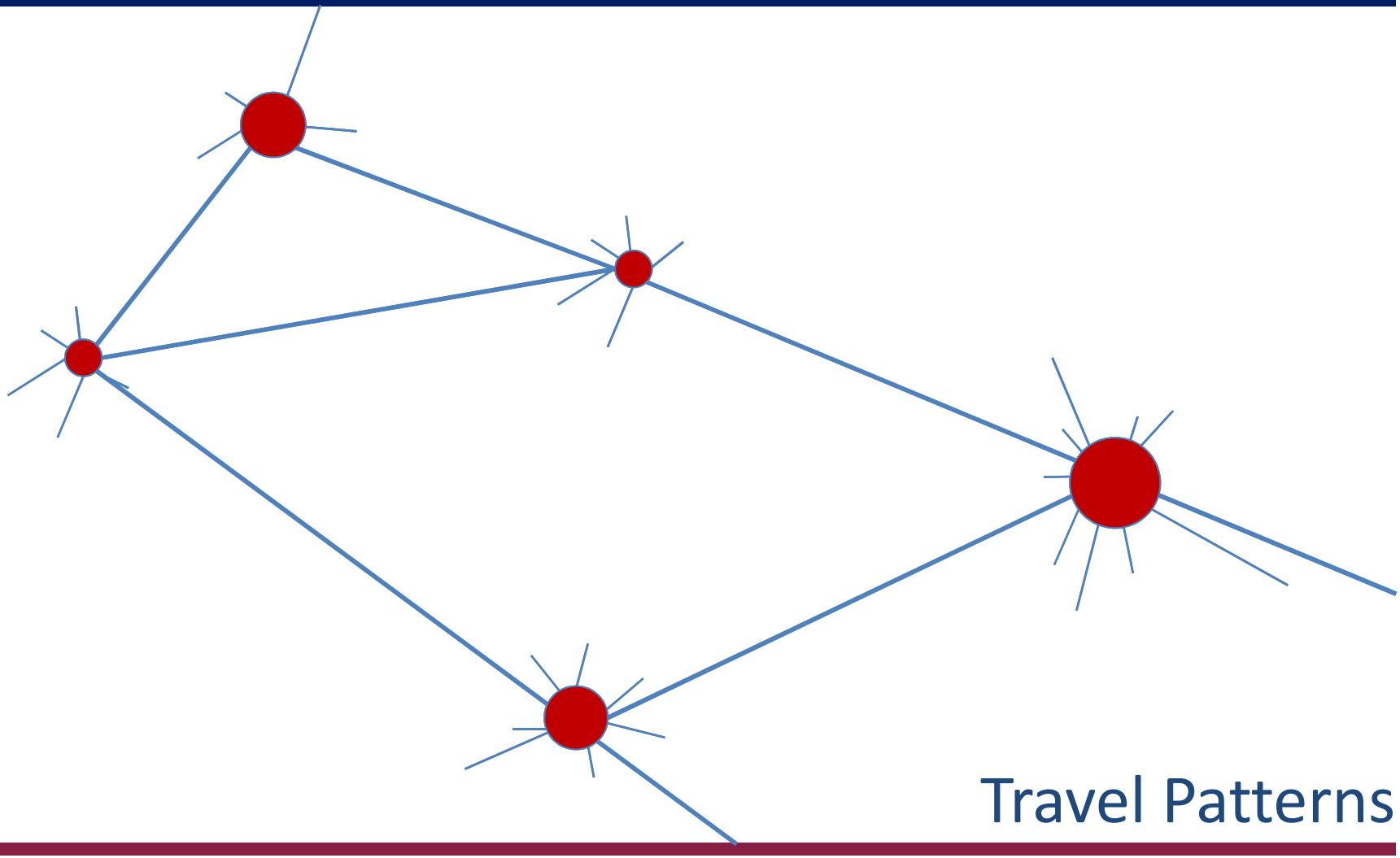
Assumptions

- Technology focused on local/last-mile applications
- Increased reliance on shared vehicle fleet
- Cost of vehicle operations relatively high (gas price or VMT tax)
- Demographic shifts to urban households (millennials and retirees prefer urban living)
- Increased acceptance/ preference for shared ride travel

Results

- Denser development patterns
- Increased vehicle availability
- Shorter trip lengths
- More non-motorized trips
- Increased telework and e-commerce
  - Fewer person-trips
  - More deliveries
- Shared vehicle fleet includes more 'dead-heading' of empty vehicle
- Less reliance on parking at specific origin and destination locations

Future Scenario B



Travel Patterns

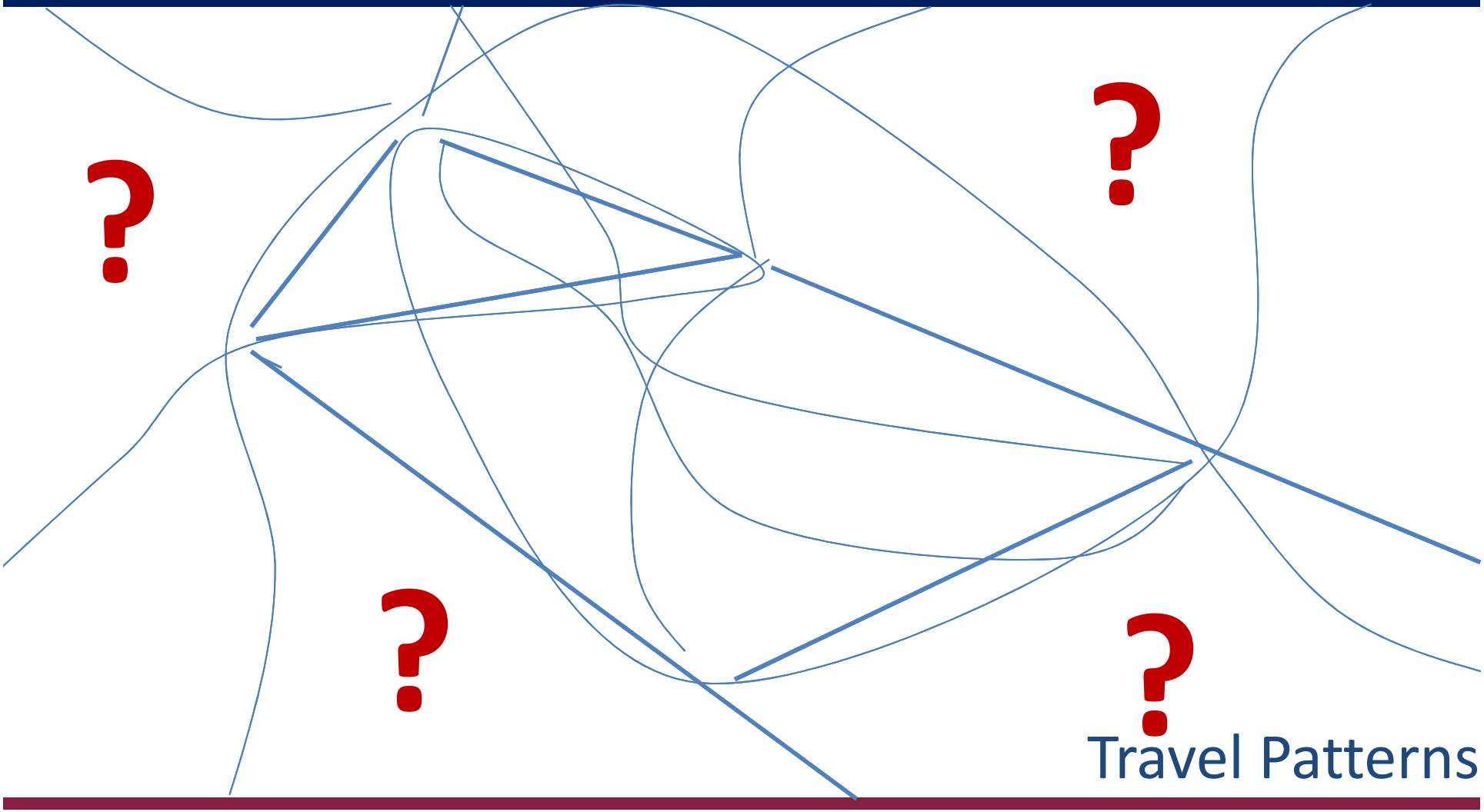
NVTA's TransAction

Future Scenarios for Analysis

Baseline Future	Future A	Future B	Future C

• MWCOG cooperative forecasts
• Continued regional growth in population and employment
• Current land use and transportation planning
	• Autonomous vehicles improve long-distance travel
	• Changed perception of driving (not wasted time)
	• Relatively low cost of driving/auto ownership
	• Diffuse development patterns and longer trips
		• Autonomous vehicles/ technology improve "last mile"
		• High cost of driving/ auto ownership
		• Demographics shift towards small urban households
		• Shorter trips
		• Increased telework
		• Increased non-motorized travel
			• Combinations of Futures A & B
			• Other potential variables to consider:
			  • Regional economic downturn
			  • Major climate change impacts

Future Scenario C



NVTA's TransAction

Communicating Future Scenarios

- Upcoming Public Meetings
  - How can we convey our scenario proposals to the public?
    - What is the right level of detail?
    - How can we make it easier for them to understand?
  - How can the public contribute to the definition of Future Scenarios?