



Chittenden County
I-89 2050 Study

South Burlington City Council

September 21, 2020



Meeting Agenda

1. Introductions

2. Public Comment Period

3. Project Background & Updates

Update on activities since the last Advisory Committee meeting.

4. Vision, Goals, and Objectives

Revised Vision, Goals, and Objectives

5. Secondary Growth Analysis / Delphi Panel

Review Secondary Growth Assessment summary and proposed land use changes

➤ **ACTION: Approve Secondary Growth land use estimates**

6. Second Round Interchange Screening Evaluation

- Review of interchange alternatives being evaluated
- Review of draft Second Round interchange evaluation metrics

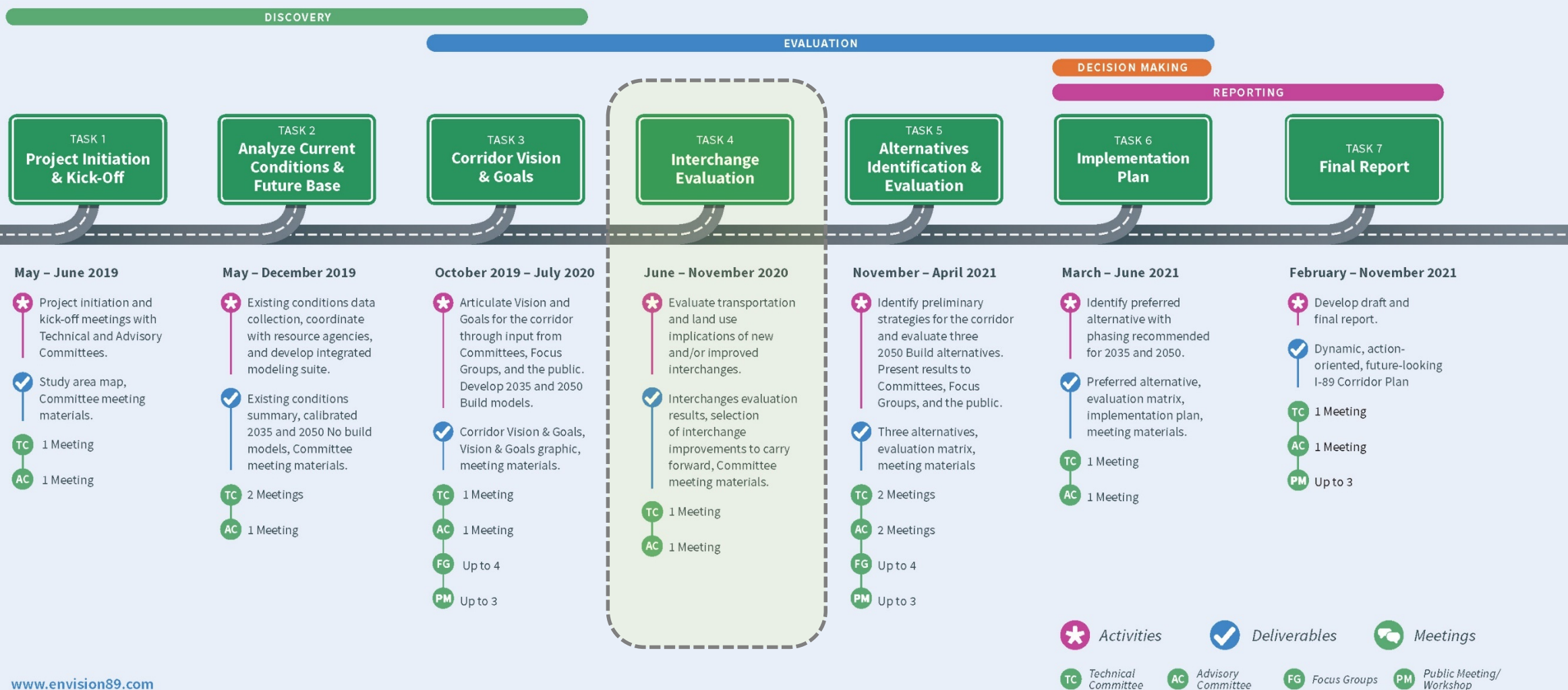
7. Next Steps

- Finalize Second Round Interchange Evaluation: September – November
- Technical Committee Meeting #6: November 2020
- Online Public Meeting: December 2020
- South Burlington City Council Update: December 2020 / January 2021
- Advisory Committee Meeting #5: January 2021



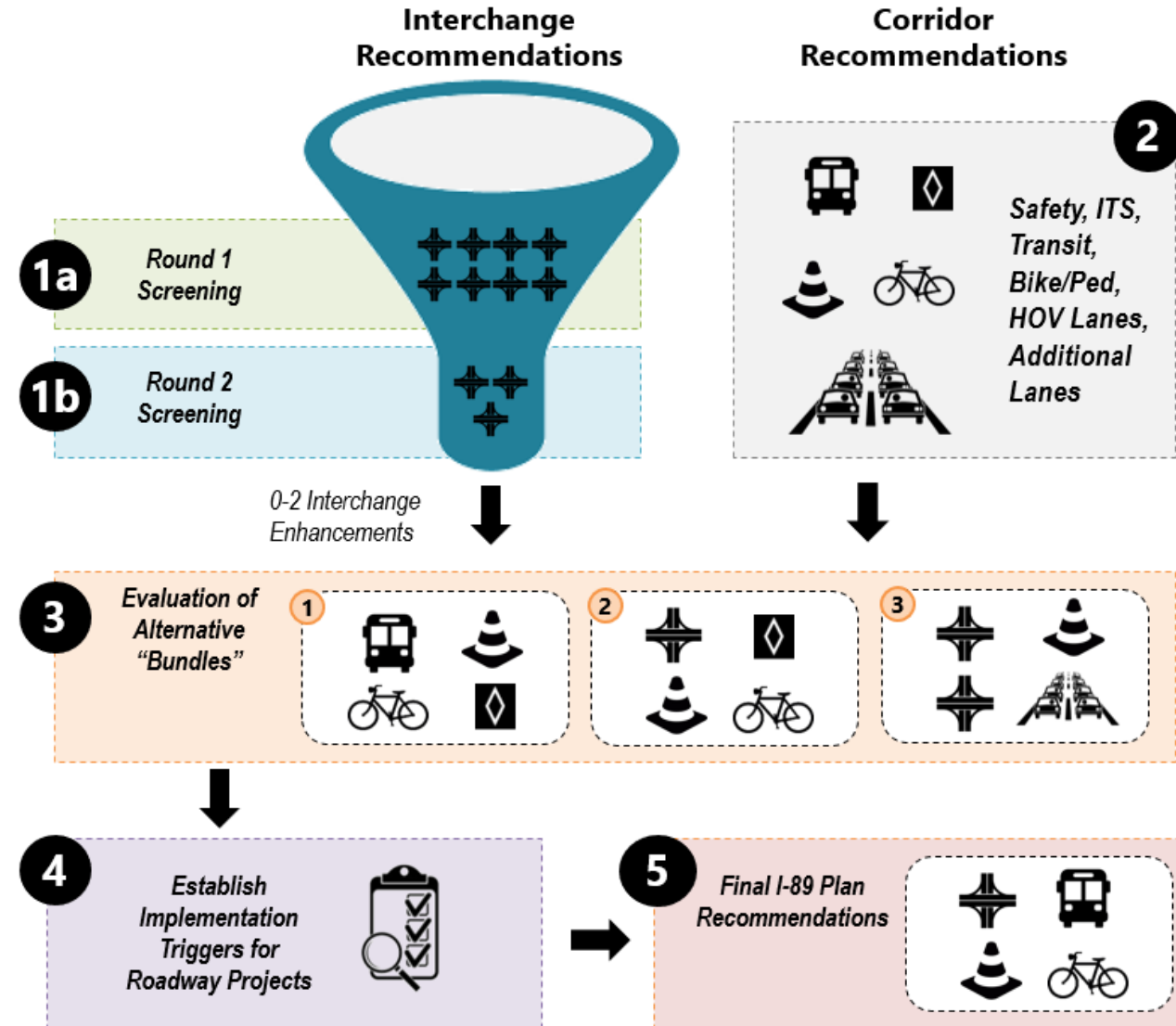
Chittenden County I-89 2050 Study Project Overview

Our schedule for successfully moving from project kick-off through stakeholder engagement and technical evaluations to develop a comprehensive, forward-looking plan for the I-89 corridor.



Process to Develop I-89 Corridor Plan Recommendations

1. Interchange Recommendations
 - *First Round "High-Level" Interchange Screening*
 - *Second Round Interchange Evaluation*
2. Full Recommendations (*inclusive of interchanges and other improvements*)
3. Evaluate Three "Bundles" of Alternatives
4. Establish Implementation Triggers for Roadway Projects
5. Final I-89 Plan Recommendations
6. Ongoing: Monitoring & Implementation



Other Updates

- Update to South Burlington City Council – September 21
- Bolton & Milton Interchanges
 - The CCRPC does not have the resources this fiscal year to engage in updating the conceptual plans and conduct environmental reviews for the Bolton and Milton interchanges.
 - The CCRPC is proposing to include these projects to the FY22 UPWP (starting July 2021) for the UPWP Committee's and CCRPC Board's consideration.
- Planning for targeted public outreach to under-represented populations before developing the alternative bundles for the I-89 Corridor (early 2021)



Vision, Goals & Objectives



Chittenden County I-89 2050 Study

There is significant uncertainty about long-lasting changes on where people will live and how they will travel in the future due to the COVID-19 pandemic, technology, demographics, and other dynamics. We recognize that the I-89 Vision, Goals, Objectives and implementation actions that will follow will need to be reassessed periodically to ensure that they address the evolving situation.

DRAFT Vision Statement

The 2050 Vision for the I-89 Corridor through Chittenden County is an interstate system (mainline and interchanges) that is safe, resilient, and provides for reliable and efficient movement of people and goods in support of state, regional, and municipal plans and goals.

DRAFT Goals & Objectives

Safety: Enhance safety along the I-89 Study Corridor and areas surrounding adjacent interchanges for all users.

- a) Reduce the frequency and severity of crashes along the I-89 Study Corridor and at adjacent interchanges.
- b) Enhance safety of bicyclists and pedestrians at areas surrounding interchanges.
- c) Improve incident response with operational improvements (e.g. information and interstate access).

Livable, Sustainable and Healthy Communities: Promote compact, smart growth that supports livable, affordable, vibrant, and healthy communities.

- a) Invest in transportation infrastructure that encourages transportation choice, transportation affordability, and smart growth in the urban core of the county and is consistent with state, regional and municipal plans and goals.
- b) Ensure that transportation improvements do not disproportionately impact low income and minority populations negatively and prioritize improvements with positive impacts.

Mobility & Efficiency: Improve the efficiency and reliability of the I-89 Corridor and Adjacent Interchanges for all users.

- a) Accommodate current and anticipated future traffic demand, with a particular focus on the urban core (Exits 12-16). Continually monitor traffic volumes and develop triggers for specific improvements.
- b) Maintain reliable travel times for people and goods along the corridor.
- c) Address the mobility needs of all users, including those who do not drive.
- d) Improve connectivity to support walking & bicycling through the study area interchanges.
- e) Increase current and future public transportation access and/or services.

Environmental Stewardship & Resilience: Establish a resilient I-89 Corridor that minimizes environmental impacts associated with the transportation system.

- a) Improve water quality and stormwater treatment.
- b) Reduce greenhouse gas emissions associated with fossil fuels used in transportation in accordance with the State and Regional Energy Plans
- c) Improve wildlife and habitat connectivity.
- d) Improve the ability of I-89 to withstand and recover from extreme weather events.

Economic Access & Vitality: Improve economic access and vitality in Chittenden County.

- a) Support anticipated economic growth in the region.
- b) Accommodate freight and goods movement served by the I-89 Corridor, considering possible diversion of freight to other forms of transportation.

System Preservation: Preserve and improve the condition and performance of the I-89 Corridor.

- a) Provide for sound and effective maintenance and preservation activities to achieve a "State of Good Repair" of the I-89 Corridor.

Secondary Growth Evaluation

➤ **ACTION: Approve/Accept Secondary Growth Land Use Estimates Summarized in 9/11 RSG Memo**

- Delphi panel used to explore secondary land-use effects of improvements to the I-89 corridor. Panel meeting held on 28 July and facilitated by Stephen Lawe of RSG.
- Three scenarios encompass the primary improvements and affected land area
- Secondary growth analysis is relocated growth within the county or new to the county. The Delphi panel informed the degree of change of the secondary growth relative to the MTP forecast growth.
- The 2035 planning year was used for the Delphi panel and used to develop these forecasts which will inform the 2050 planning horizon.

TABLE 1: SECONDARY LAND USE BY 2035—SUMMARY OF RESULTS

SECONDARY GROWTH SCENARIO	NEW RESIDENTIAL (HH)	REALLOCATED RESIDENTIAL (HH)	NEW COMMERCIAL (EMP.)	REALLOCATED COMMERCIAL (EMP.)
1) Exit 14 U Mall. Modest commercial growth in and around U Mall.	–	–	80	80
2) Exit 13, 14, Widening btwn. Exits 14 and 15. Slight residential growth north and in downtown.	100	–	–	–
Franklin County growth	30	–	–	–
3) Exit 12B. Significant commercial and residential proximate to project, modest regional growth in residential.	190	150	450	450

Notes: HH – Household EMP - Employees U Mall – University Mall

Note: Numbers rounded for presentation purposes

Interchange Evaluation: Development of Interchange Concepts

■ Round 1 Interchange Screening Results

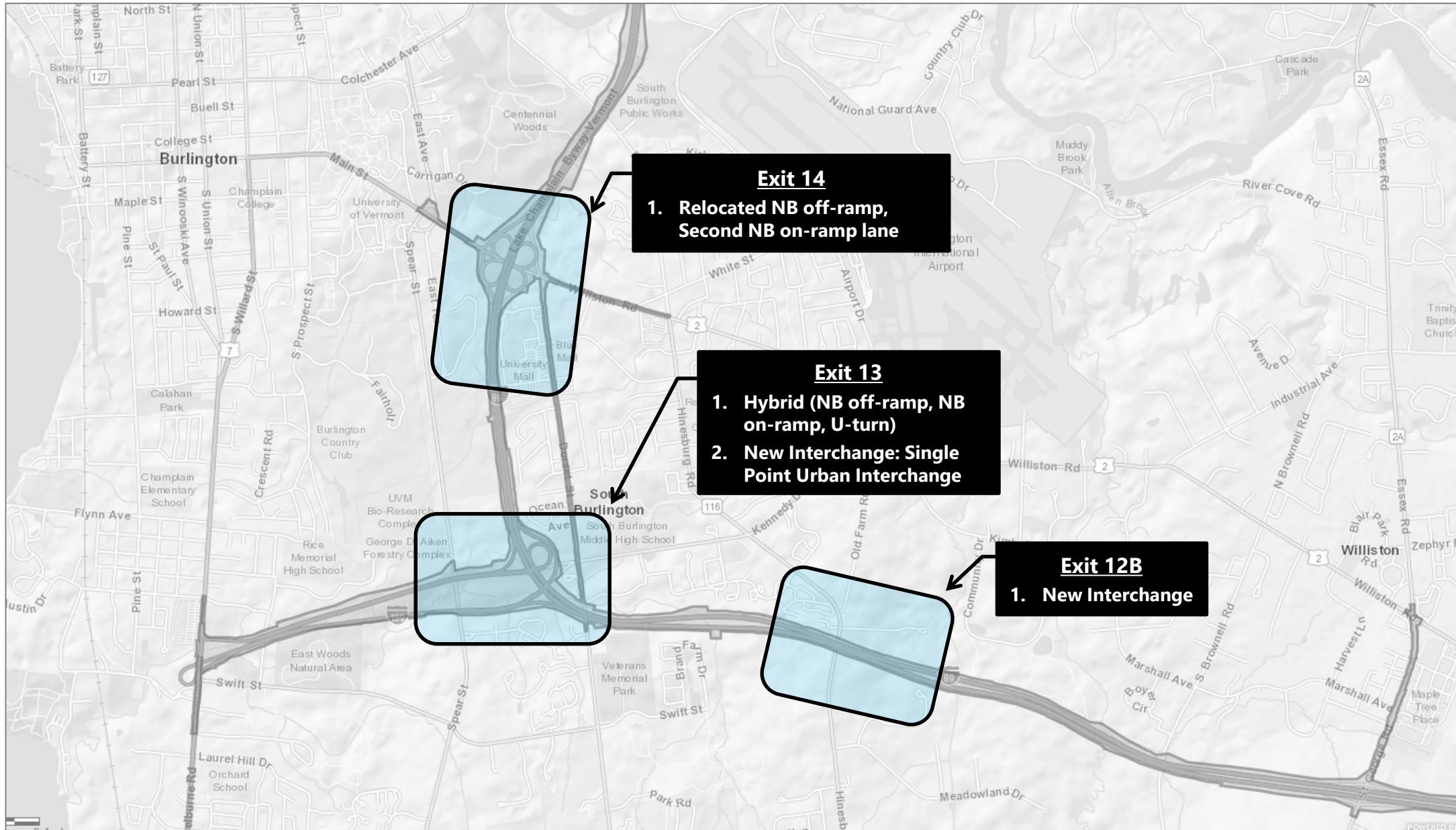
- Evaluated 8 interchange alternatives (*complete*)
- Advisory Committee voted in June to advance interchanges at 12B, 13, and 14 to Round 2 for further analysis

■ Round 2 Interchange Overview

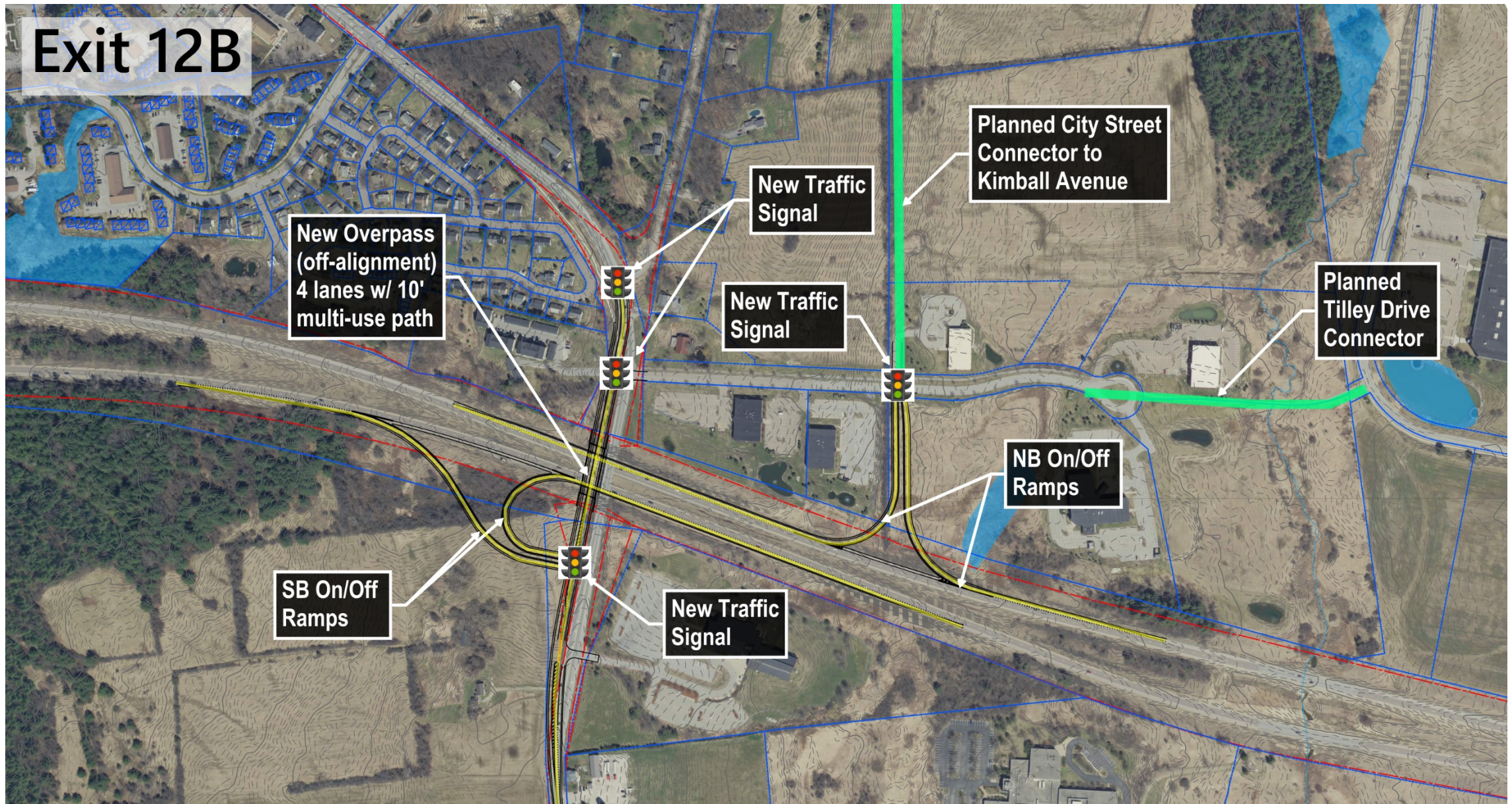
- Project team reviewed various interchange configurations
 - Exit 12B
 - Started with approved configuration from 2010 Scoping Study
 - Evaluated several different ramp configuration alternatives
 - Exit 13
 - Evaluated seven interchange configuration alternatives
 - Looked at alternatives that revert I-189 to arterial roadway
 - Exit 14
 - Evaluated eight interchange configuration alternatives, including new off-ramp through University Mall parcel



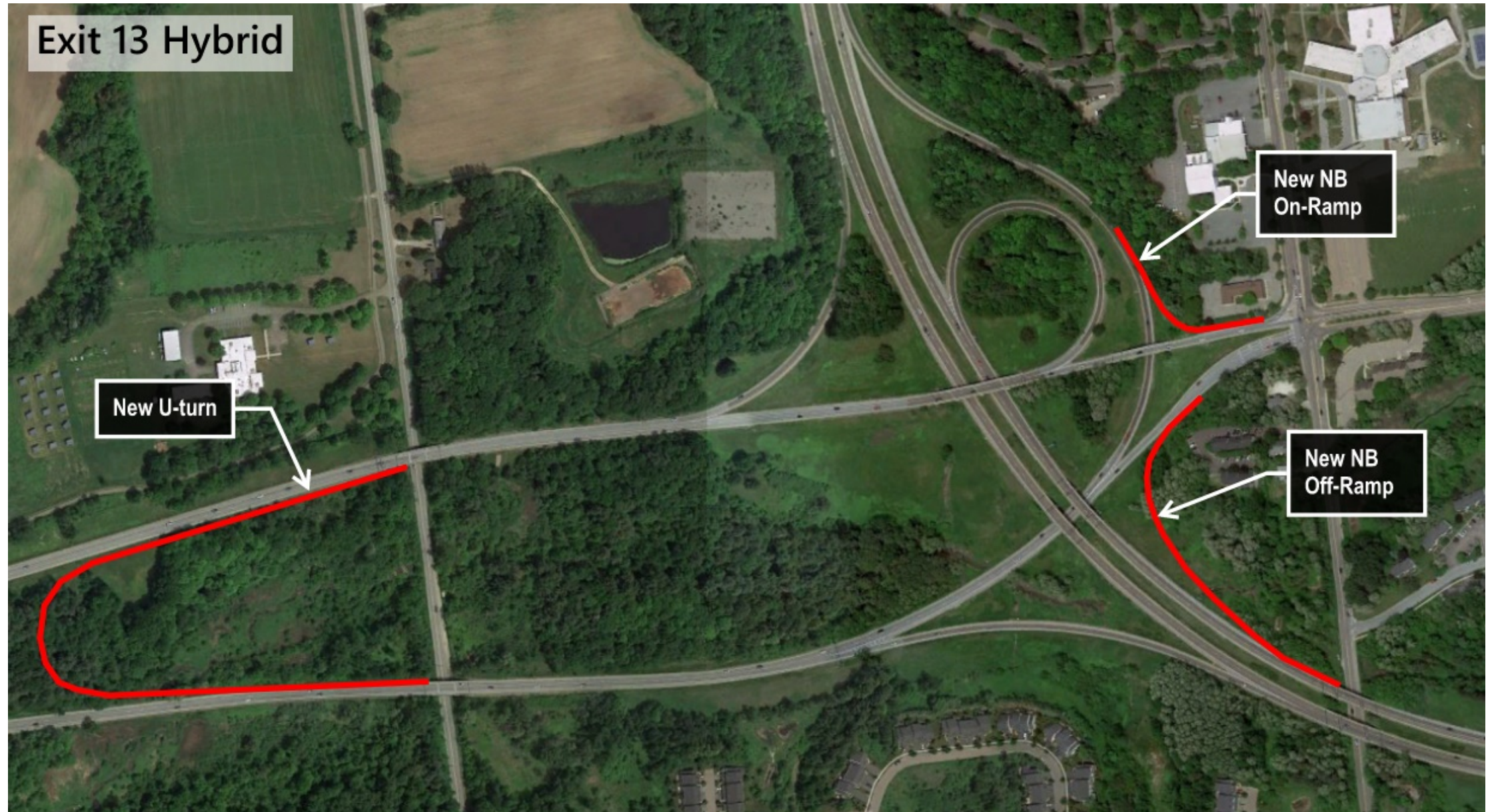
Second Round Interchange Evaluation - Overview



Conceptual Interchange Alternatives – Exit 12B



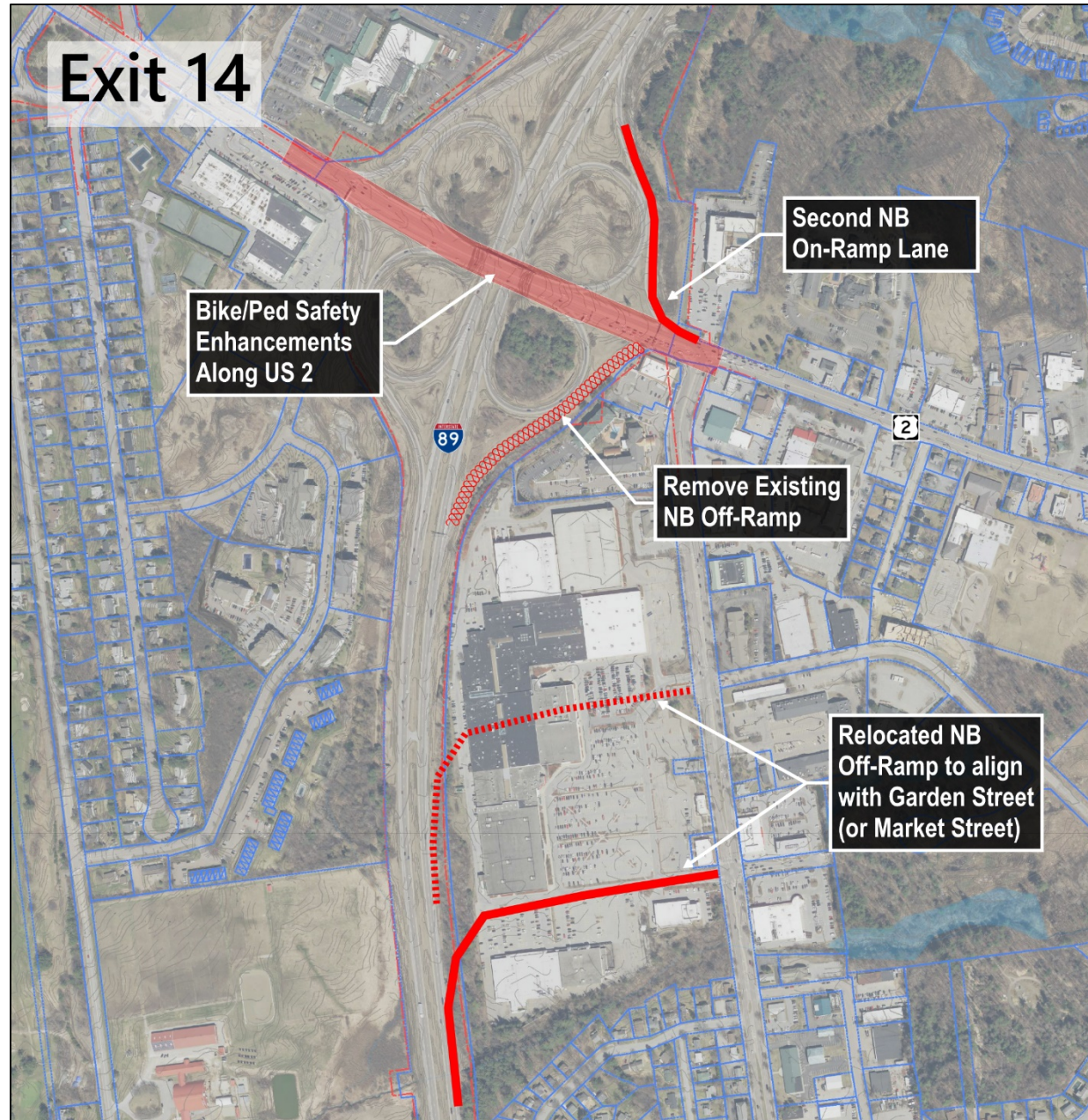
Conceptual Interchange Alternatives – Exit 13



Conceptual Interchange Alternatives – Exit 13



Conceptual Interchange Alternatives – Exit 14



Draft Interchange & Corridor Screening Metrics

Chittenden County I-89 2050 Study

Draft Round 2 Interchange & I-89 Corridor Screening Metrics

GOALS, OBJECTIVES & SCREENING METRICS

Goals & Objectives	Interchange Metric	I-89 Corridor Metric
SAFETY: Enhance safety along the I-89 Study Corridor and areas surrounding adjacent interchanges for all users.		
OBJECTIVES a) Reduce the frequency and severity of crashes along the I-89 Study Corridor and at adjacent interchanges.	Interchange Spacing: Is the interchange more than 1 mile (urban) or 3 miles (rural) from nearest interchange?	This metric will be eliminated during the evaluation of the alternative bundles for I-89.
	Safety Benefit/Cost Ratio: Safety Benefit/Cost ratio of proposed improvements (IHSDM predictive model)	Safety Benefit/Cost Ratio
b) Enhance safety of bicyclists and pedestrians at areas surrounding interchanges	No metric	TBD
c) Improve incident response with operational improvements (e.g. information and interstate access).	No metric	TBD
LIVABLE, SUSTAINABLE, & HEALTHY COMMUNITIES: Promote compact, smart growth that supports livable, affordable, vibrant, and healthy communities.		
OBJECTIVES a) Invest in transportation infrastructure that encourages transportation choice, transportation affordability, and smart growth in the urban core of the county and is consistent with state, regional and municipal plans and goals.	Consistent with Regional Plan Future Land Use: Absolute number (or percent) of Secondary Growth occurring within ECOS growth zones	TBD
	ROW Impacts: Approximate area of ROW impacts based on limit of disturbance around the interchange Property Impacts: Number of homes, businesses, or other structures potentially impacted by the interchange improvements	ROW impacts and number of homes, businesses, or other structures potentially impacted by alternative bundles.
b) Ensure that transportation improvements do not disproportionately impact low income and minority populations negatively and prioritize improvements with positive impacts.	Environmental Justice: Change in accessibility resulting from improvements (compare accessibility to identified EJ traffic analysis zones vs. non EJ traffic analysis zones)	Change in accessibility resulting from improvements (compare accessibility to identified EJ traffic analysis zones vs. non EJ traffic analysis zones) Another possible EJ Metric?

NOTE: Text in blue indicates new metric not included in Round 1 of Interchange Evaluation

Draft Interchange & Corridor Screening Metrics

GOALS, OBJECTIVES & SCREENING METRICS

Goals & Objectives	Interchange Metric	I-89 Corridor Metric
MOBILITY & EFFICIENCY: Improve the efficiency and reliability of the I-89 Corridor and Adjacent Interchanges for all users.		
OBJECTIVES a) Accommodate current and anticipated future traffic demand, with a particular focus on the urban core (Exits 12-16). Continually monitor traffic volumes and develop triggers for specific improvements.	Cost per Trip: Estimated cost for the interchange improvements divided by the total number of 2050 trips estimated to use the interchange	TBD
	Vehicle Miles of Travel (VMT): Networkwide change in VMT with interchange improvement compared to the 2050 base model	TBD
	Average Delay: Change in average per trip delay across subarea microsimulation model	TBD: V/C? Delays?
b) Maintain reliable travel times for people and goods along the corridor.	Travel Time Reliability: Ratio of 80th percentile speed to 50th percentile speed across network	Travel Time Reliability
c) Address the mobility needs of all users, including those who do not drive.	No Metric	TBD: Proportion of bundle cost allocated to various modes
d) Improve connectivity to support walking & bicycling through the study area interchanges.	Bike/Ped Connectivity: Extent to which improvement effects connectivity for pedestrians and/or cyclists across I-89 interchanges	Bike/Ped Connectivity
e) Increase current and future public transportation access and/or services.	No Metric	TBD

NOTE: Text in blue indicates new metric not included in Round 1 of Interchange Evaluation

Draft Interchange & Corridor Screening Metrics

GOALS, OBJECTIVES & SCREENING METRICS

Goals & Objectives	Interchange Metric	I-89 Corridor Metric
ENVIRONMENTAL STEWARDSHIP: Establish a resilient I-89 Corridor that minimizes environmental impacts associated with the transportation system.		
OBJECTIVES a) Improve water quality and stormwater treatment.	Wetland Impacts: Approximate area of wetland/wetland buffer impacts based on the estimated limits of disturbance	Wetland Impacts
	River Corridors: Approximate area of river corridor, floodway, and 100-year flood zone impacts based on the estimated limits of disturbance	River Corridors
b) Reduce greenhouse gas emissions associated with fossil fuels used in transportation in accordance with the State and Regional Energy Plans.	Fuel Consumption: Total fuel consumption across model network	TBD: Fuel consumption or GHG emissions
c) Improve wildlife and habitat connectivity.	Natural Habitats: Approximate area of deer wintering yards, and rare, threatened, and endangered (RTE) species impacts based on the estimated limits of disturbance	Natural Habitats
d) Improve the ability of I-89 to withstand and recover from extreme weather events.	Resilience: Network Robustness Index (NRI) & Network Trip Robustness (NTR)	Resilience
ECONOMIC ACCESS: Improve economic access and vitality in Chittenden County.		
OBJECTIVES a) Support anticipated economic growth in the region.	Job Access: Total number of projected 2050 jobs within 1 mile of interchange (based on 2050 employment for TAZs within Chittenden County that intersect or are within 1 mile buffer of interchange)	TBD
	Interchange Trips: Total number of daily trips using the interchange including existing ramps and new ramps	This metric will be eliminated during the evaluation of the alternative bundles for I-89.
b) Accommodate freight and goods movement served by the I-89 Corridor, considering possible diversion of freight to other forms of transportation	Freight Travel Time Reliability: Freight travel time reliability measure (NPMRDS)	Freight Travel Time Reliability

NOTE: Text in blue indicates new metric not included in Round 1 of Interchange Evaluation



Next Steps

- Finalize Second Round Interchange Evaluation: [September – November](#)
- Technical Committee Meeting #6: [November 2020](#)
- Online Public Meeting: [December 2020](#)
- South Burlington City Council Update: [Dec 2020/Jan 2021](#)
- Advisory Committee Meeting #5: [January 2021](#)
- Targeted public outreach to under-represented populations before developing the alternative bundles for the I-89 Corridor: [Early 2021](#)