



Senate Transportation Committee
House Transportation Committee

Wayne Symonds,
VTrans Structures Program Manager
February 10, 2017



Community Project Goals

- Protect the safety of the community: people, property, environment
- Minimize the project impact on the vitality of the downtown community: businesses, residents, institutions
- Maintain traffic flow and pedestrian access to the greatest extent possible
- Develop and maintain a credible schedule
- Engage with the local community and facilitate clear communication with all stakeholders



Project Team

- **Brian Carpenter**, Middlebury Selectboard Chair
- **Jim Gish**, Middlebury Community Liaison
- **Wayne Symonds**, PE, Structures Program Manager, *VTrans*
- **Joel Perrigo**, PE, Project Manager, *VTrans*
- **Matt DiGiovanni**, Construction Engineer, *FHWA*
- **Aaron Guyette**, PE, Design Project Manager, *VHB*
- **Mark Alexander**, Construction Project Manager, *Kubricky Construction (Not in attendance)*
- **Jill Barrett**, Public Outreach Coordinator, *Fitzgerald & Halliday, Inc. (FHI) (Not in attendance)*



Construction Manager/General Contractor (CM/GC)

Benefits of CM/GC:

- Improved Cost Control
- Risk reduction & allocation
- Improved design quality
- Schedule optimization
- Collaboration
- Model to implement innovation



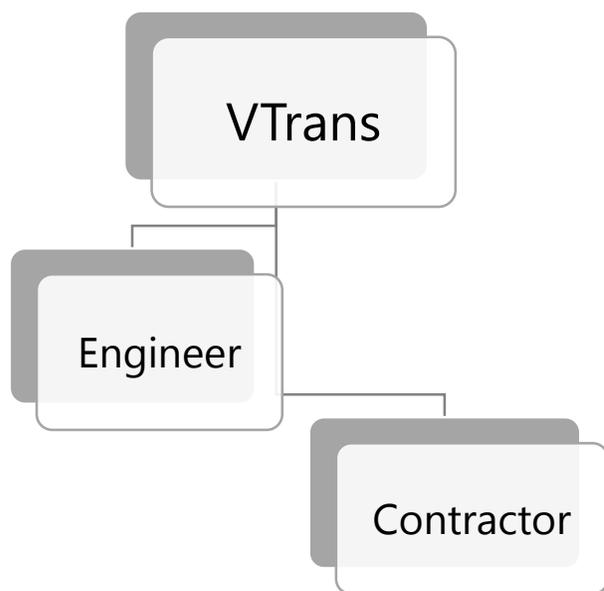
Construction Manager/General Contractor (CM/GC)

- Contract with the Designer
- Two Contracts with the Contractor
 1. Owner Pre-Construction Services Contract with Contractor
 - Assist with Design
 2. Owner Construction Contract with Contractor
 - Build Project

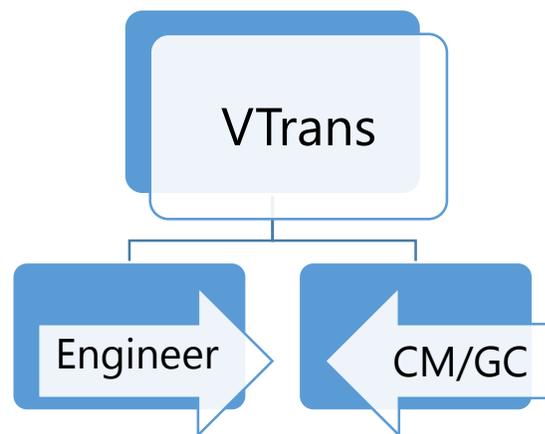


Project Delivery Methods

Design-Bid-Build



CM/GC





Purpose and Need

- Replace bridges on Main Street and Merchants Row
- Reconstruct rail through the project area
- Address existing drainage concerns of the rail line



General map of project area



Bridge Replacement

- Main Street and Merchants Row bridges at the end service life
- Structurally deficient, but currently safe
- Complete replacement of both bridges is necessary
- VTrans quarterly bridge inspection
- Recent issues with sidewalks and concrete falling on the tracks
- Temp Bridge Contingency





Rail Reconstruction/Drainage Improvement

- Address poor rail alignment through the project
- Replace track and ties at the end of service life
- Provide drainage of the rail corridor
- Increase vertical clearance from current 18' to 21'
- Improve safety and reliability for rail operation
- Plan for future freight opportunities and passenger service





Vertical Clearance

- Measured from the top of the rail to low point on bridge
- Increase from existing 18'-0" clearance to 21' -0"
- Legislation in 2016 authorizes reduction from 23'-0" to 21'-0"
- VTrans, Vermont Railway, and Middlebury sign agreement for 21'-0"
- Supports future increase height for freight cars
- New bridges have 100 year life



The Big Project Reset

- Late July 2016 VTrans Assumed Management
- Moved into the Structures Program
- 8 week evaluation of the project schedule, scope, and risks
- New team from VTrans, Kubricky and VHB
- New commitment to meeting the needs of the community while achieving the Purpose and Need of the project. – These are not mutually exclusive.



Project Risks

- Threatened and Endangered Species – Bats
- Mobility
- Impacts to Business and downtown
- Utility Relocations
- Existing Bridge Safety
- Railroad Agreements and coordination



Project Risks

- Contaminated Soils
- Historic Structures Monitoring and Vibration Mitigation
- Right-Of-Way Acquisition
- HAZMAT Incident Management Plan
- Litigation



Accelerated Bridge Construction (ABC)

- New project approach
- Short road closure and train detour
- 10-week road closure with detour vs. 2 years of conventional construction
- New bridge uses precast concrete pieces to rapidly replace the bridges
- Project designed to be built quickly



Accelerated Bridge Construction (ABC)

- VTrans has been successful in delivering ABC projects
- We understand 10 weeks is a lot for the Community
- Strive to communicate and provide valid schedules for stakeholders to plan
- Strive to provide mobility and pedestrian access during the closure

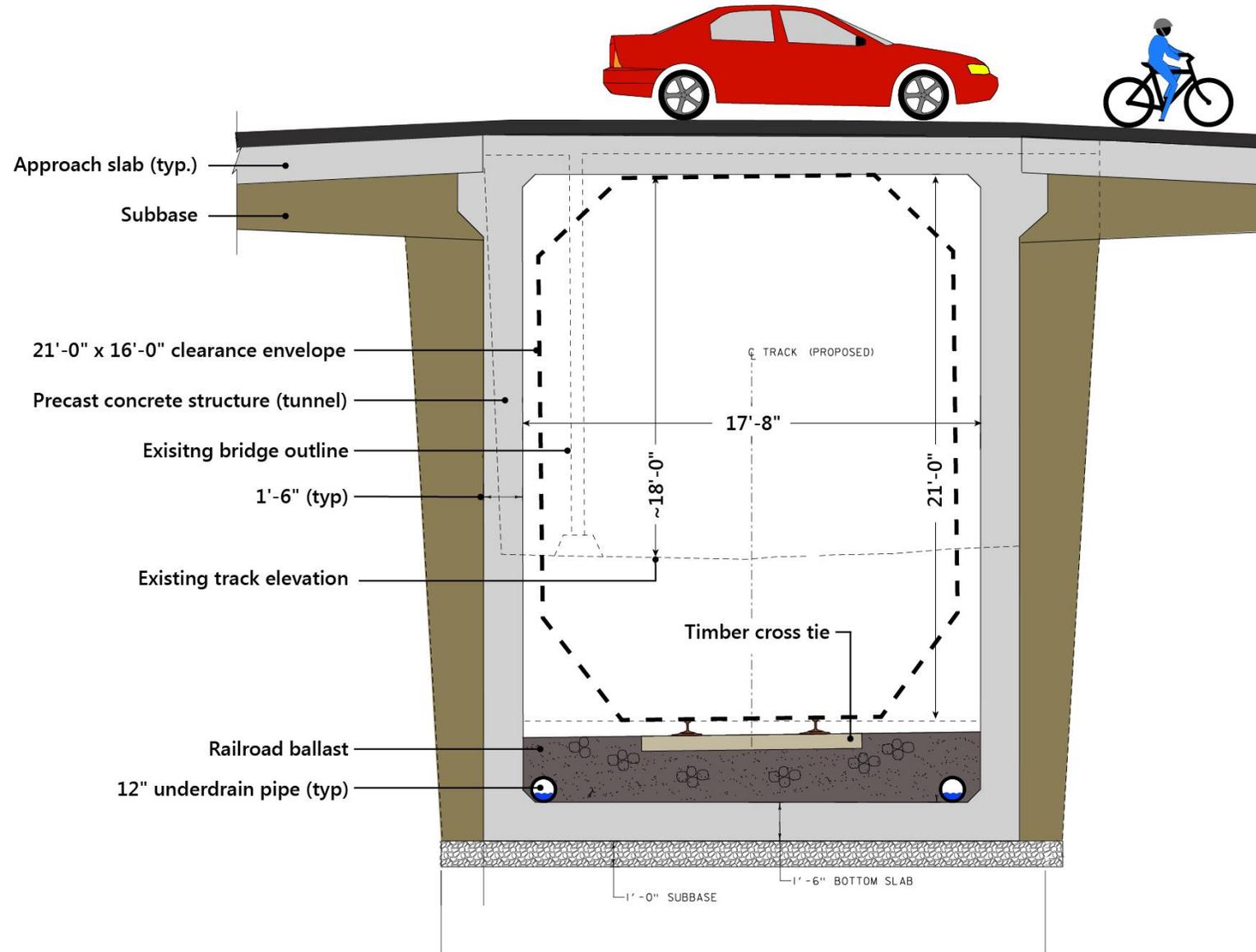
Big question:

Why not just replace the bridges with a 19'-0" RR clearance? Wouldn't that be easier and reduce the project impact on Middlebury?





New Bridge Design

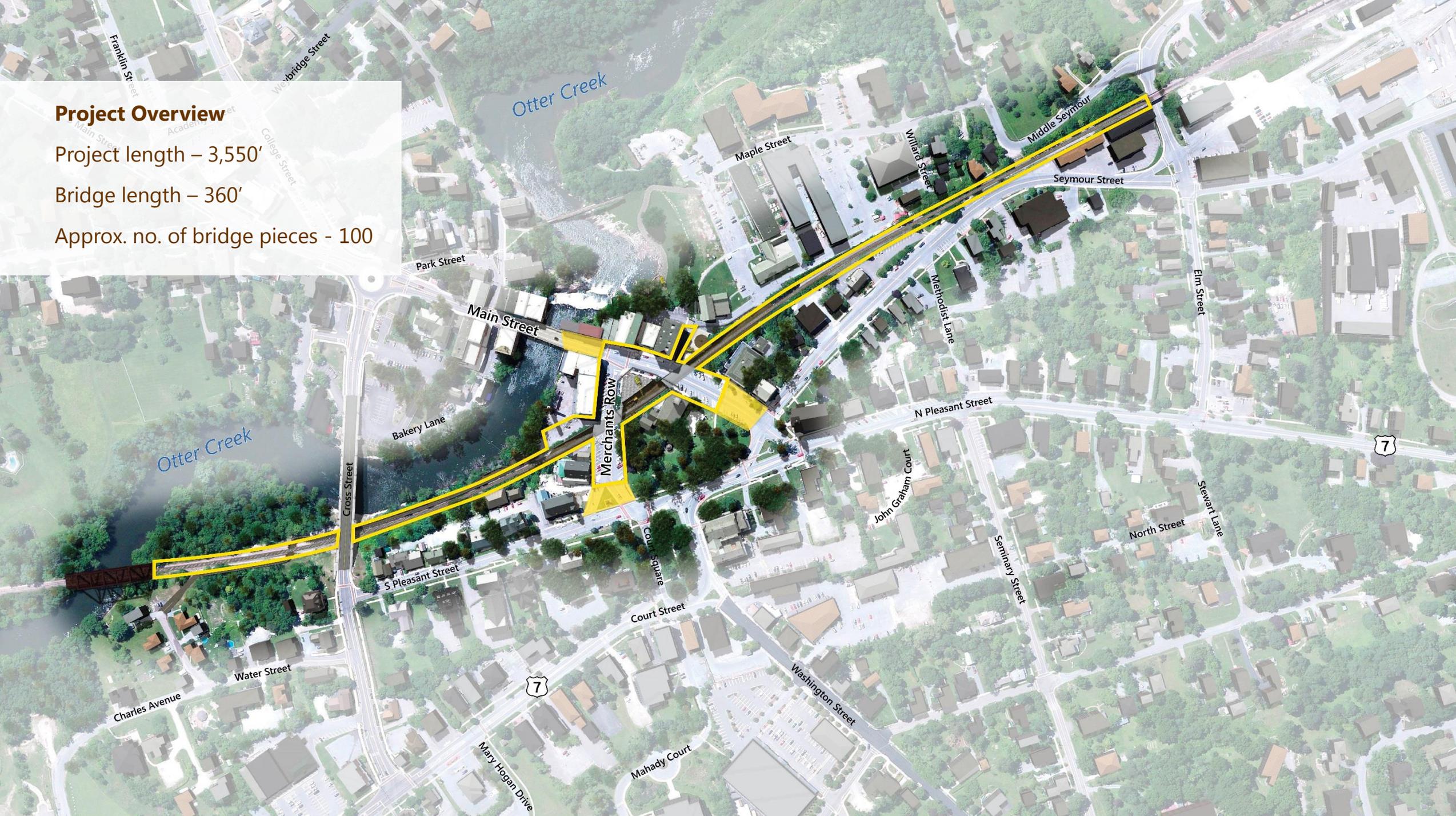


Project Overview

Project length – 3,550'

Bridge length – 360'

Approx. no. of bridge pieces - 100





Middlebury Bridge & Rail Project

Year 1 Construction Drainage	Year 2 Construction Support of Excavation	Year 3 Construction Bridge Construction	Year 4 Construction Landscaping
Drainage	Excavation Support	Bridge Construction	Landscaping

Year 1 Construction Activity

- Temporary access road
- Drainage system
- Maintenance road and outfall
- Underground utility infrastructure

Year 1

Year 2

Year 3

Year 4

Temporary access road



Year 1

Year 2

Year 3

Year 4

Drainage system installation

Drainage outfall/
receiving shaft 1

Drive 1

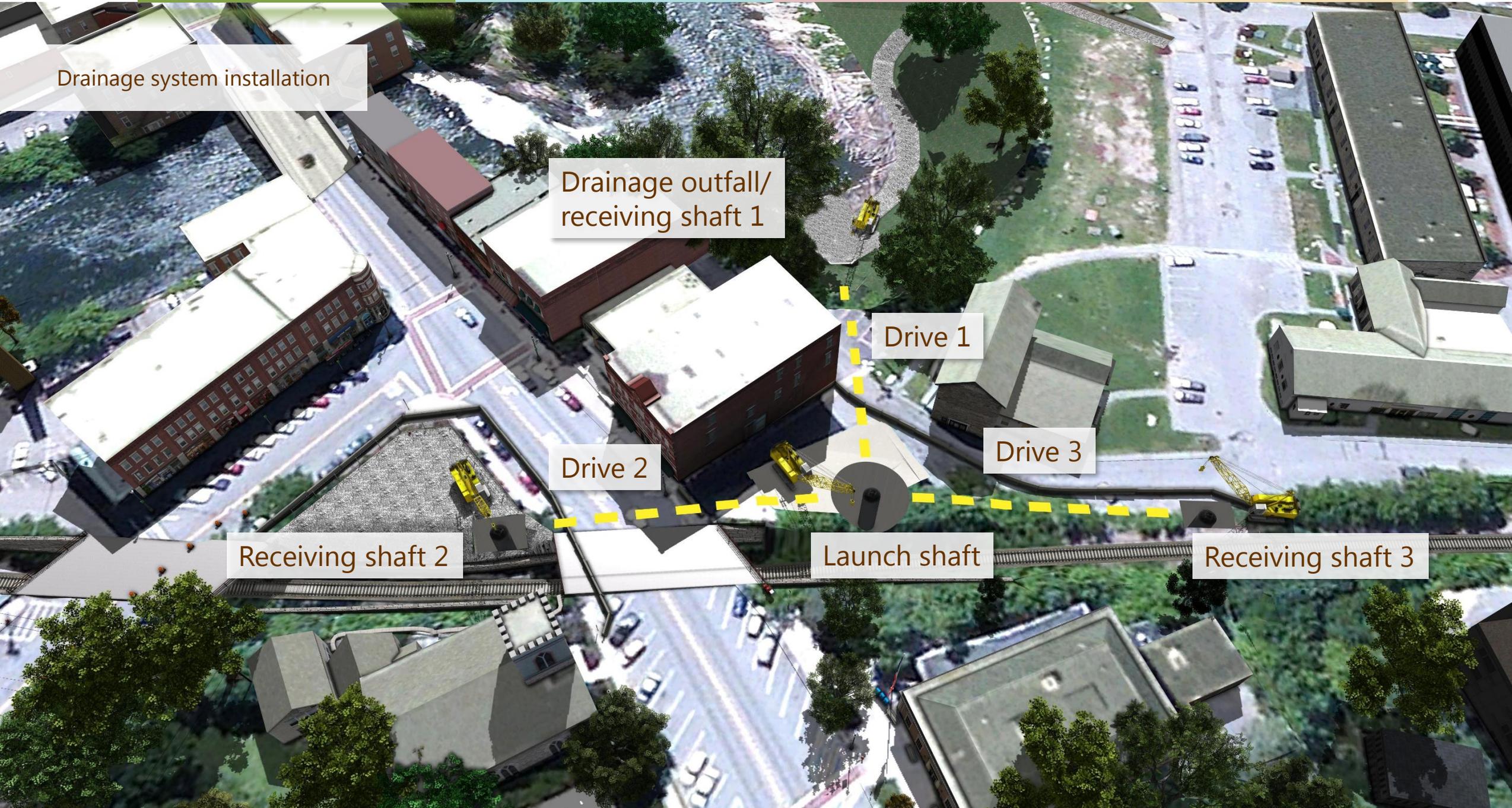
Drive 2

Drive 3

Receiving shaft 2

Launch shaft

Receiving shaft 3



Year 1

Year 2

Year 3

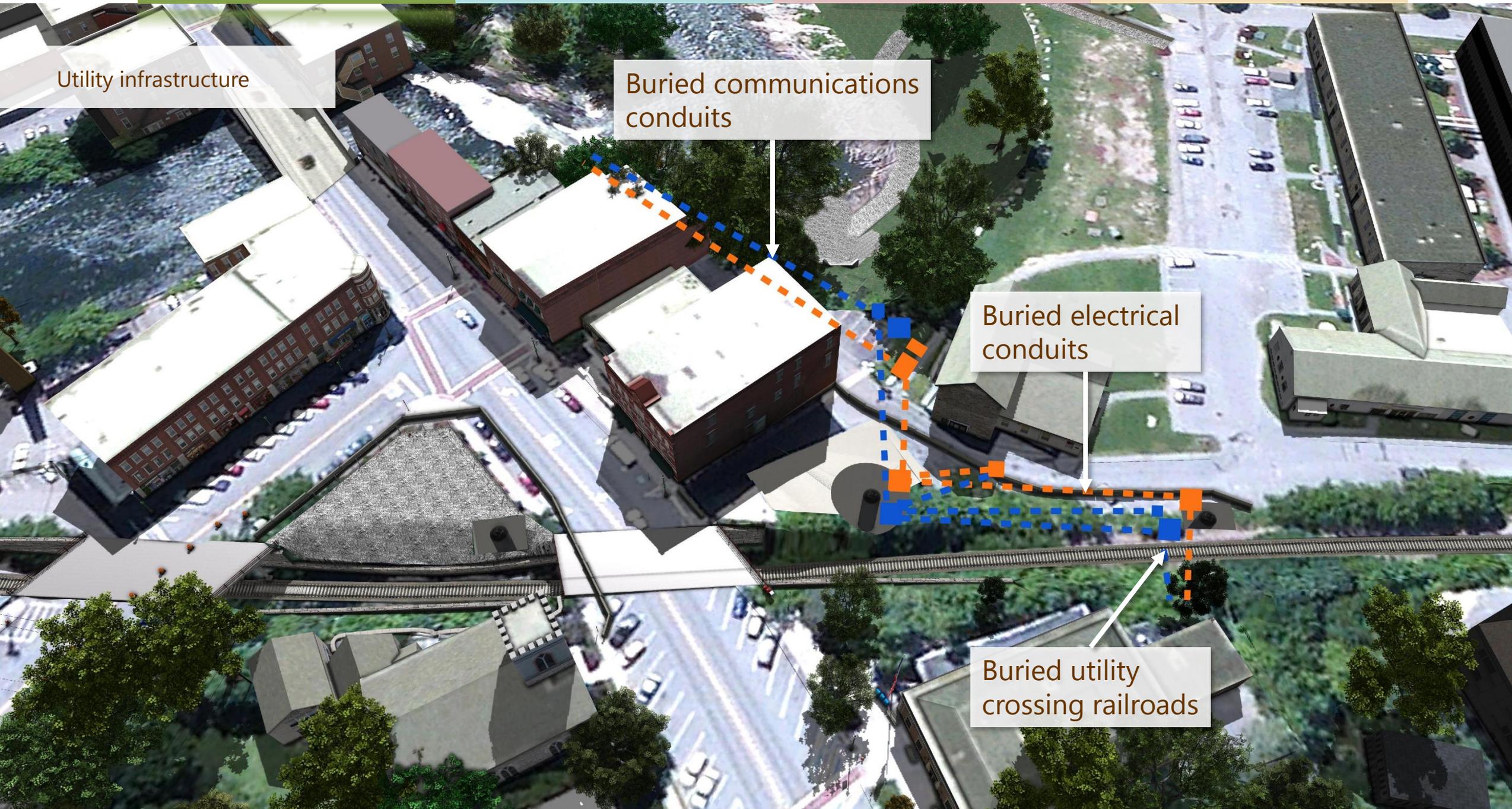
Year 4

Utility infrastructure

Buried communications conduits

Buried electrical conduits

Buried utility crossing railroads



Year 1

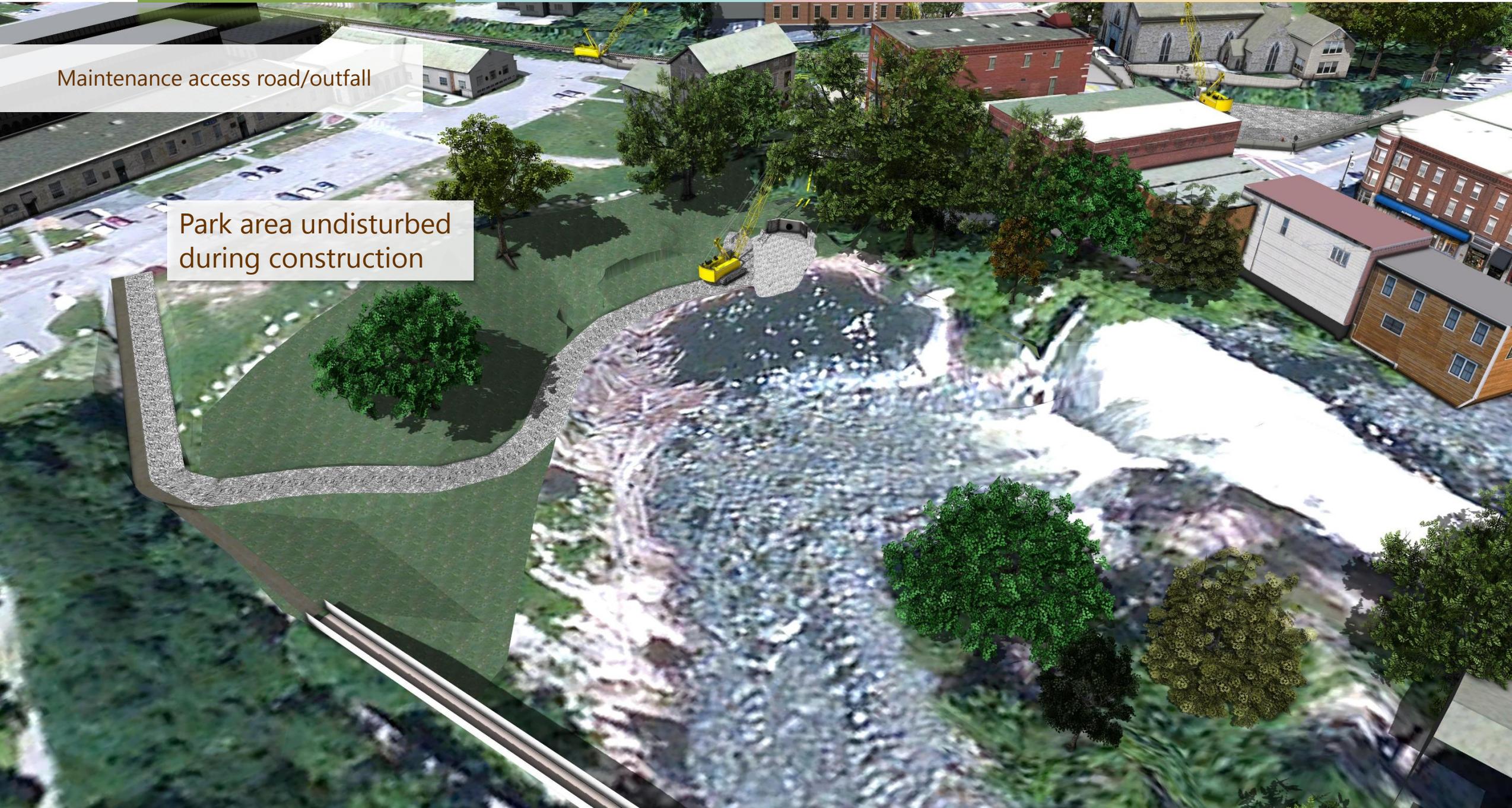
Year 2

Year 3

Year 4

Maintenance access road/outfall

Park area undisturbed during construction

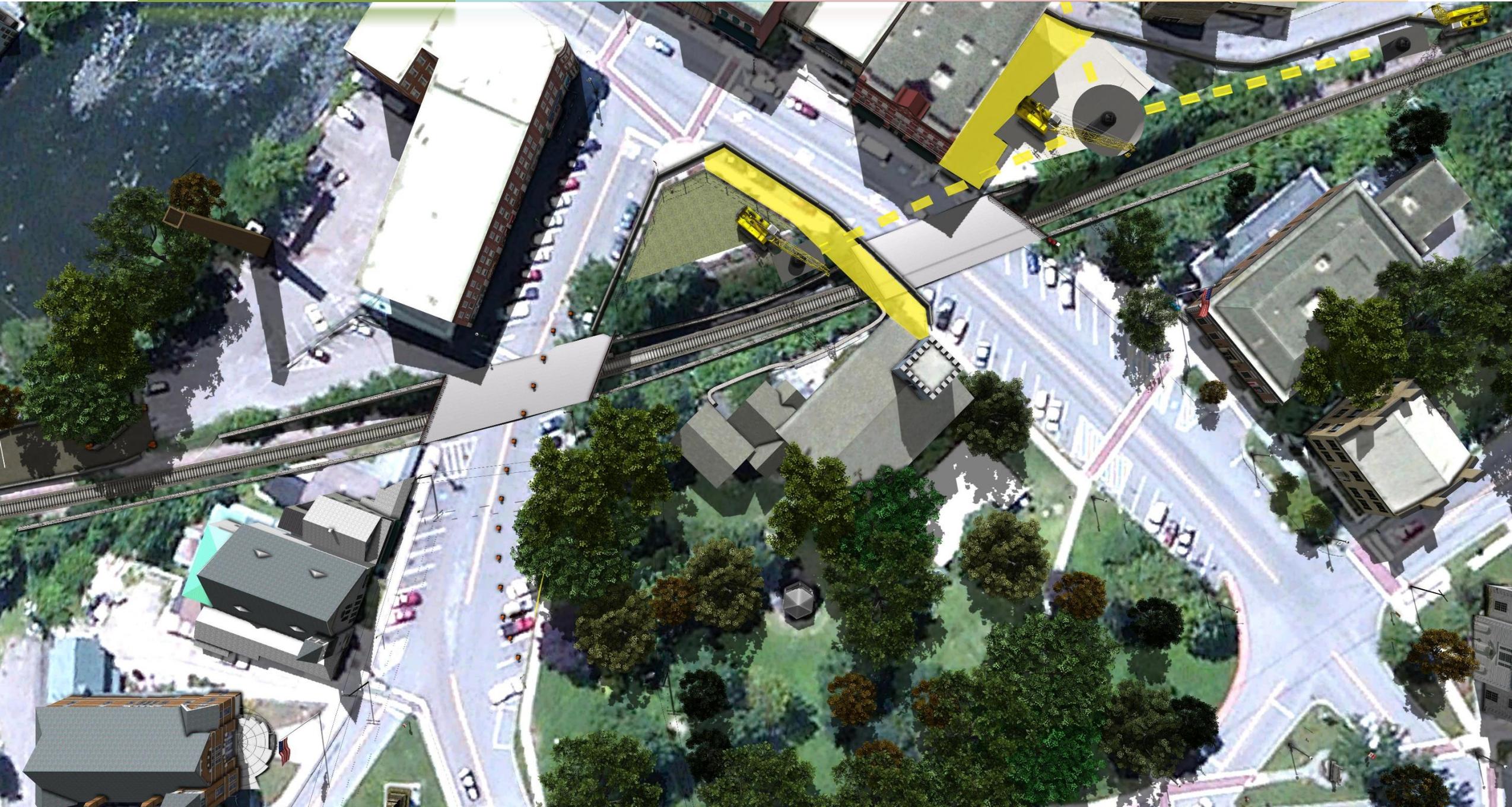


Year 1

Year 2

Year 3

Year 4



Year 1 Project Impacts

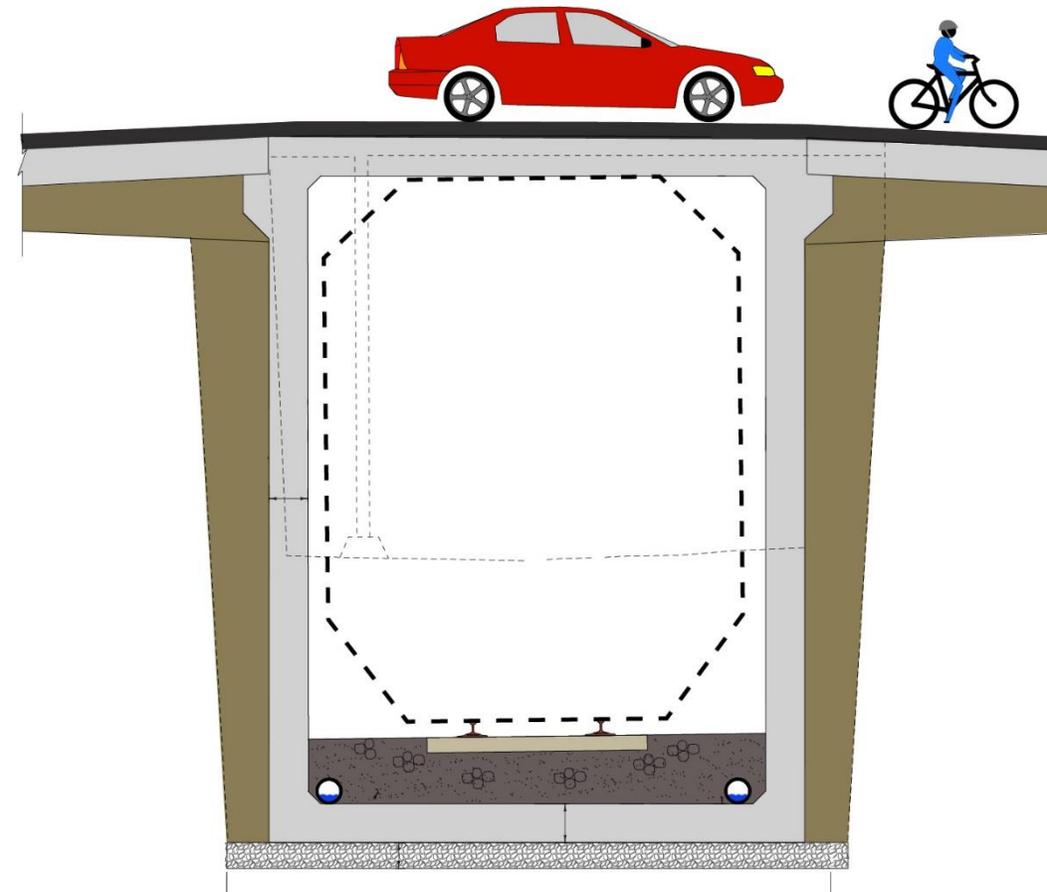
- Traffic, parking, and pedestrian impacts
 - Main Street and Triangle Park area
 - Printer's Alley
 - Short term lane closures
- Working hours
 - Anticipated weekday 7:00am–5:00pm
 - Isolated extended working hours

Year 2 Construction Activity

- Utility construction
- Support of excavation installation along railroad
- Initial excavation along railroad

Support of Excavation (SOE)

- What is Support of Excavation?
 - Temporary structure to support roads, buildings, and slopes
- Why is it needed?
 - To minimize impacts to existing infrastructure
 - Preparation for accelerated construction in 2019
- What are the extents?
 - Along the railroad corridor
- Working in the Trenches



Year 1

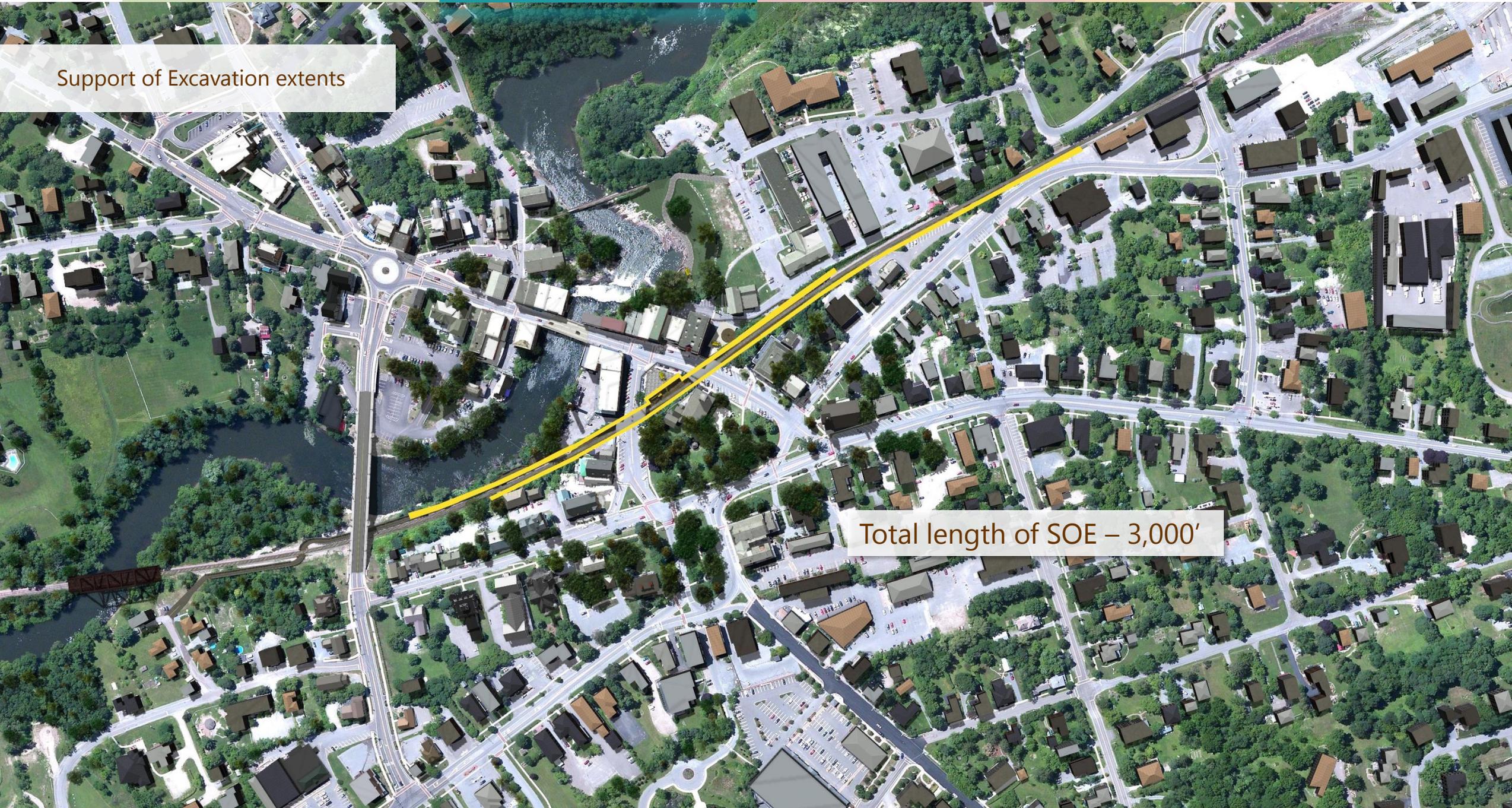
Year 2

Year 3

Year 4

Support of Excavation extents

Total length of SOE – 3,000'



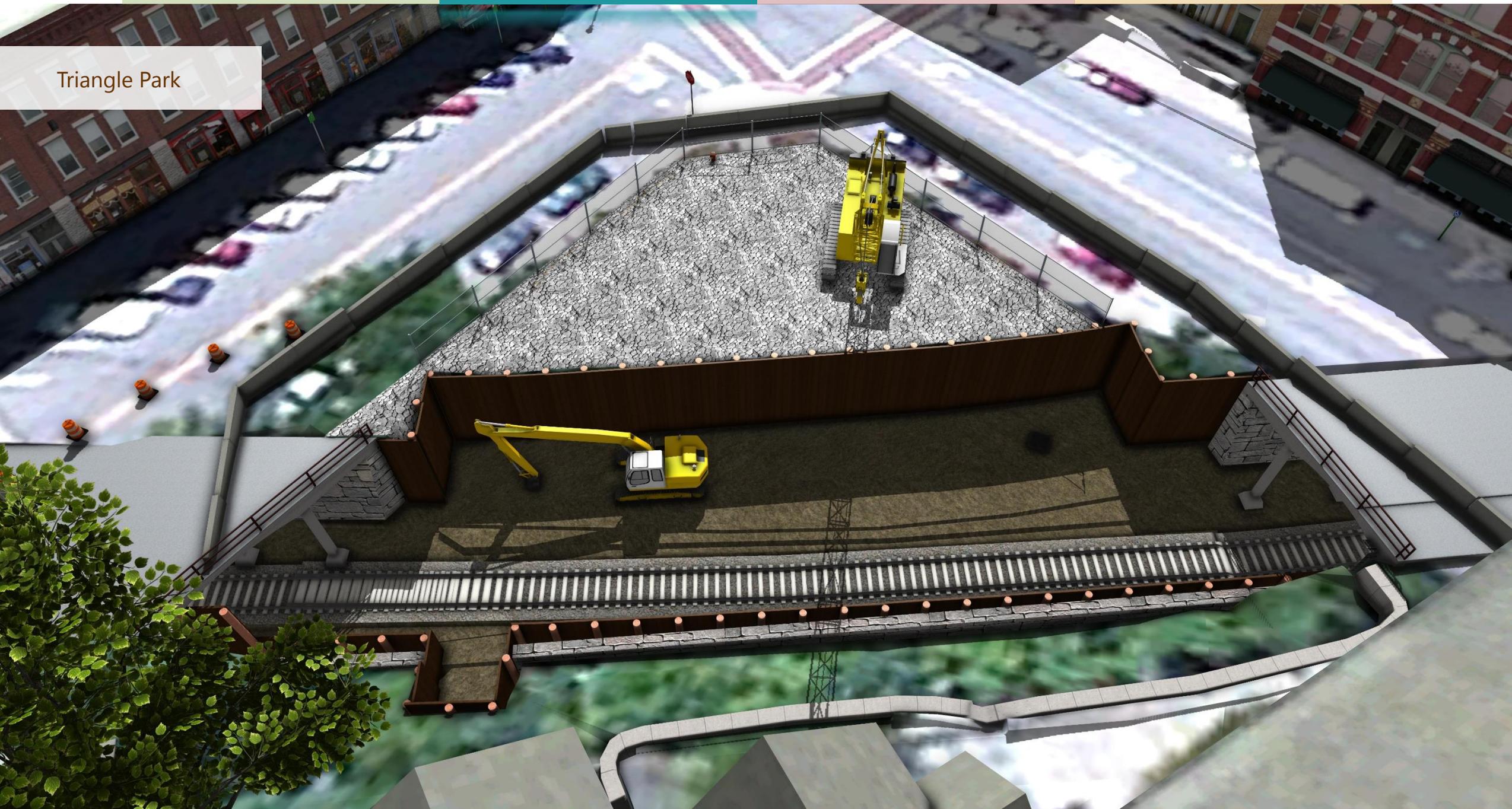
Year 1

Year 2

Year 3

Year 4

Triangle Park



Traffic and pedestrian impacts



Year 2 Project Impacts

- Traffic, parking, and pedestrian impacts
 - Main Street and Merchants Row/Triangle Park area
 - Printer's Alley
 - Short term lane closures
- Working hours
 - Anticipated weekday 7:00am–5:00pm
 - Isolated extended working hours

Year 3 Construction Activity

- **“Main Event”**
- **Pre-closure** (April and May)
- **Closure** (June, July, August)
 - Main Street and Merchants Row closures
 - Railroad detour
- **Post-closure** (September, October, November, December)

Year 3 Closure Activity (10 Weeks)

- Track removal/existing bridge demolition
- Earth and rock excavation
- Precast tunnel placement
- Return traffic to Main Street and Merchants Row

Year 1

Year 2

Year 3

Year 4

Closure

- Main Street and Merchants Row closed
- Bridge demolition
- Track removed



Year 1

Year 2

Year 3

Year 4

Closure

- Earth excavation



Year 1

Year 2

Year 3

Year 4

Closure

- U-walls set
- Earth excavation
- Rock excavation



Year 1

Year 2

Year 3

Year 4

Closure

- Precast tunnel placement
- Railroad approach excavation



Year 1

Year 2

Year 3

Year 4

Closure

- Tunnel backfill
- Continued excavation and tunnel construction at Main Street
- Final U-walls



Year 1

Year 2

Year 3

Year 4

Closure

- Tunnel complete
- Main Street and Merchants Row open to vehicle and pedestrian use
- Continued railroad approach work

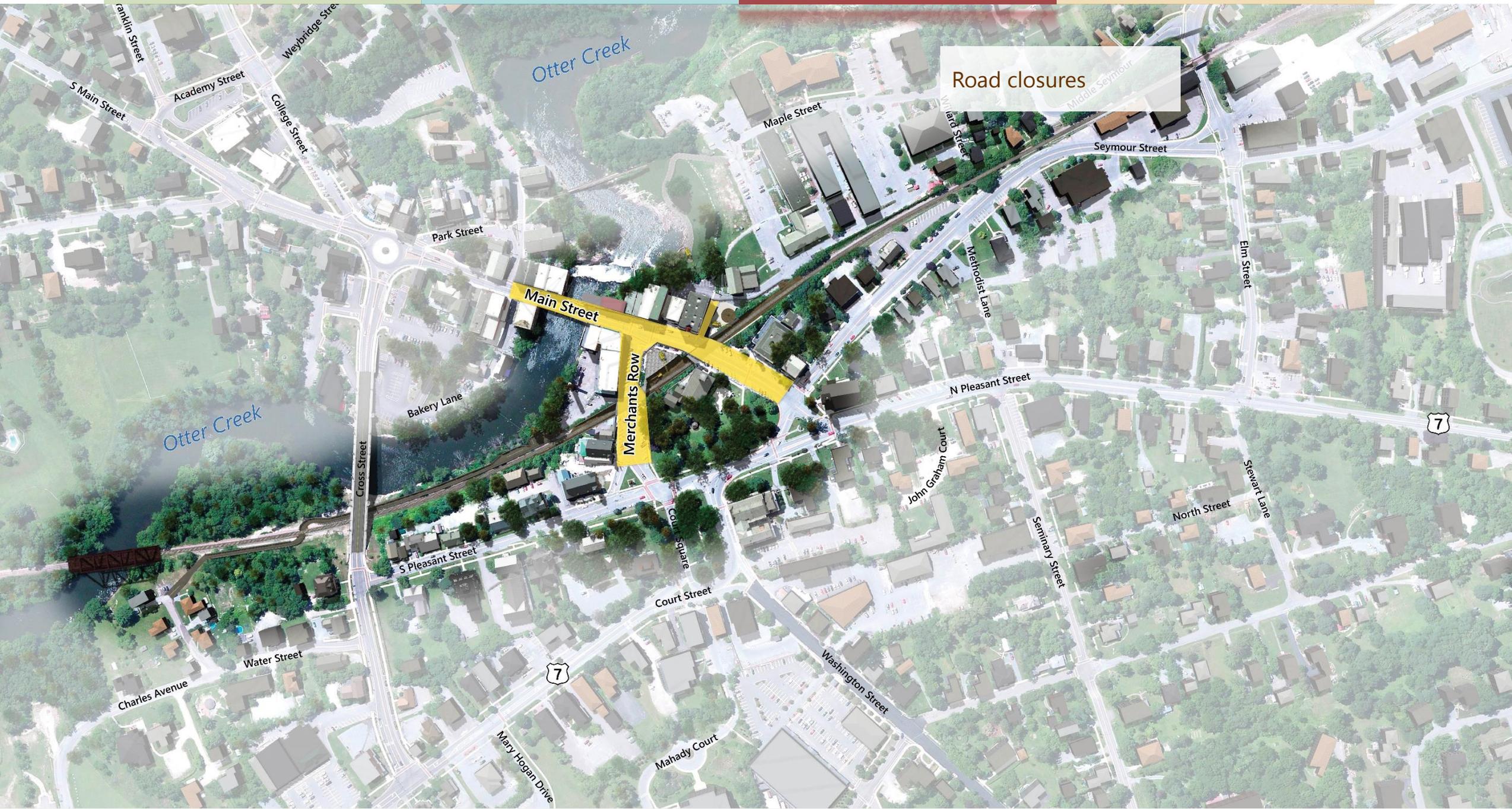


Year 1

Year 2

Year 3

Year 4



Road closures

Otter Creek

Otter Creek

Main Street

Merchants Row

7

7

Year 3 Closure Project Impacts (10 weeks)

- Traffic, parking, and pedestrian impacts
 - Main Street and Merchants Row closed at bridge crossings
 - Printer's Alley closed
- Working hours
 - 24 hours per day, 7 days per week

Year 3 Post-Closure Activity

- U-wall installation
- Curbs and sidewalks
- Bridge railing
- Grading

Year 1

Year 2

Year 3

Year 4

Post-closure, tunnel complete and roads open



Year 3 Post-Closure Project Impacts

- Traffic, parking, and pedestrian impacts
 - Phased lane and sidewalk closures
- Working hours
 - Extended 20-hour work windows for track work
 - Daily 7:00am–5:00pm roadway work

Year 4 Construction Activity

- Final railroad track construction
- Final paving, line striping, and signs
- Crosswalks
- Landscaping and parks

Year 1

Year 2

Year 3

Year 4

Project completion

Printer's Alley reconstruction

Improved vehicular and pedestrian access



Year 4 Project Impacts

- Traffic, parking, and pedestrian impacts
 - Phased lane and sidewalk closures
- Working hours
 - Anticipated 7:00am–5:00pm

Big question:

Given the structurally deficient condition of the bridges, why are you waiting until "year 3" of the project to actually replace them?



Big question:

Ten weeks is a long time to close Main Street and Merchants Row. Is there anything that you can do to shorten the duration? What are the considerations for businesses?





Current Project Status

- Re-evaluation of NEPA Document
 - Moved from Categorical Exclusion to Environmental Assessment
- Construction start delayed minimum of 1 year
- Railroad Coordination and Negotiation for 10 week detour
- New Schedule for Design and Construction
 - Earliest Construction is spring 2018



Current Estimate

- Preliminary Engineering \$4,875,000
- ROW \$400,000
- Construction
 - Contract 1 (drainage) - \$2,500,000
 - Contract 2 (bridge) - \$37,500,000



Independent Cost Estimating

- Estimate may be adjusted
 - Independent Cost Estimate is in Progress
 - Look for cost savings due to ABC option
- CMGC Process will look for efficiency and cost savings
- Preliminary work by Independent Cost Estimator validates the \$40 million construction cost.



Railroad Detour Costs

- Very Preliminary Estimate \$12,000,000
 - Extended work windows in Year 2 and Year 3
 - 10 Week bypass
- Capital track and facility improvements
- Reimbursement for RR costs incurred
- ICE estimates with out RR accommodations construction cost would be \$82,000,000

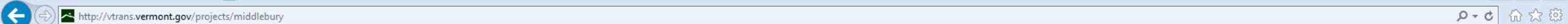


Total Estimated Cost

- Construction and RR = \$52,000,000



vtrans.vermont.gov/projects/middlebury



VERMONT OFFICIAL STATE WEBSITE



STATE OF VERMONT
Agency of Transportation

- About the Project
- Schedule
- Documents Library
- FAQs
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Middlebury Bridge & Rail Project

ABOUT THE PROJECT

The Vermont Agency of Transportation (VTrans), in collaboration with the Town of Middlebury, is undertaking a project to replace two nearly 100 year old rail bridges in the center of Middlebury with a tunnel by the summer of 2020. The two bridges are about 300 feet apart, with one located on Main Street/VT 30 and the other on Merchants Row.



Project Status Update

November:
Public Meeting: November 17th at Town Hall Theater, Middlebury

December:
Tree clearing along rail line scheduled.