



**Middlebury**  
**Bridge & Rail Project**

PRESENTED TO  
Town of Middlebury, VT

PRESENTED BY  
VTrans, VHB, Fitzgerald & Halliday, Inc., and  
Kubricky Construction



# Meeting with you today

- **Brian Carpenter**, Middlebury Selectboard Chair
- **Jim Gish**, Middlebury Community Liaison
- **Wayne Symonds**, PE, Structures Program Manager, *VTrans*
- **Aaron Guyette**, PE, Design Project Manager, *VHB*
- **Mark Alexander**, Senior Construction Manager, *Kubricky Construction*
- **Jill Barrett**, Public Outreach Coordinator, *Fitzgerald & Halliday, Inc. (FHI)*



# 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



# 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
- If bridges become unsafe, temporary bridges will be installed in 7 days





# 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 approx. 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



# 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



# ABC—Middlebury Sand Hill Bridge (6 week closure)

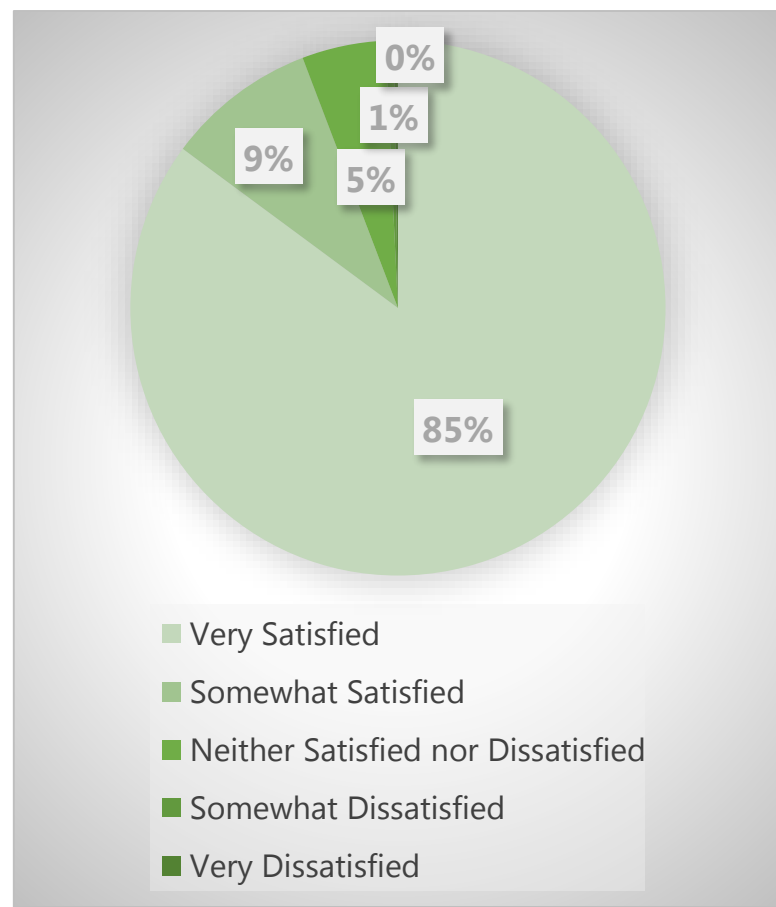




# Customer Survey Results

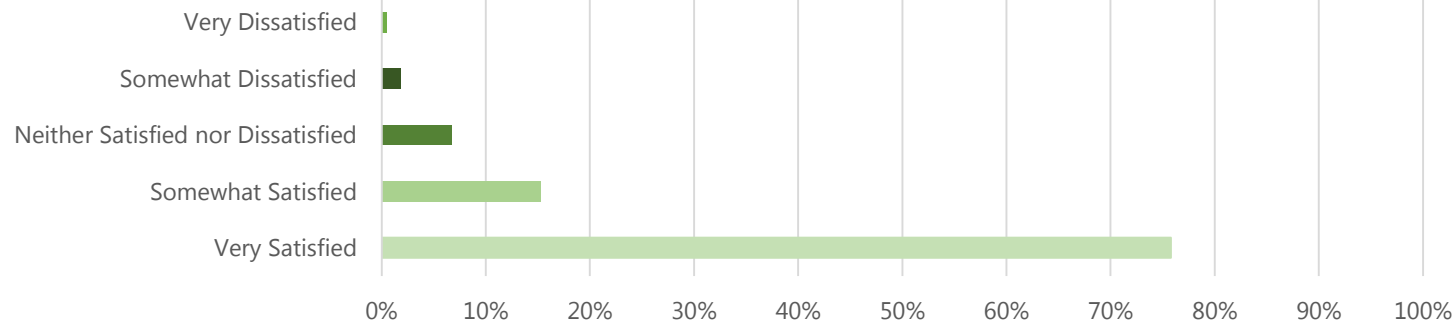
## How satisfied were you with ABC?

397 Responses from 9 projects



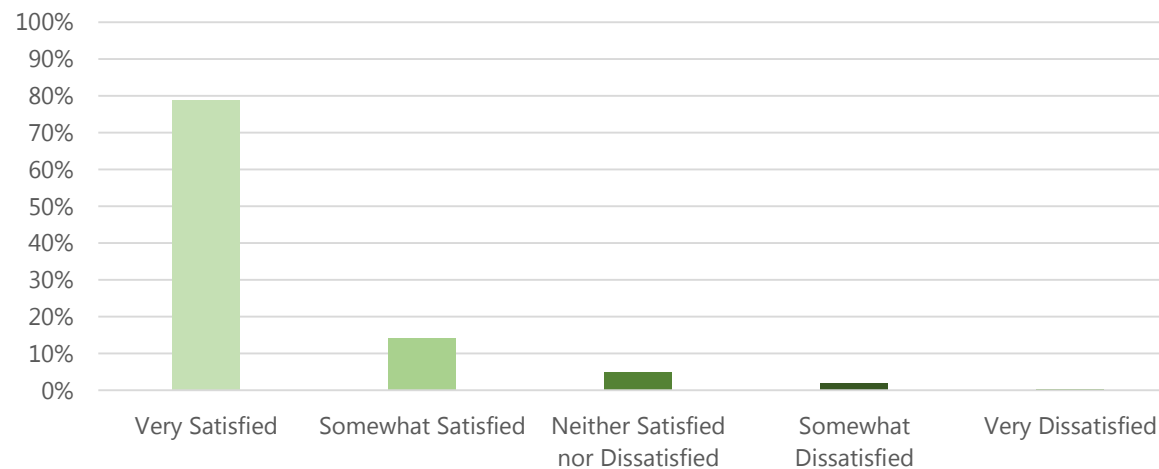
## How satisfied are you with the information you received about the bridge project?

223 Responses from 9 projects



## Overall, how satisfied were you with how VTrans delivered this project?

382 Responses from 9 projects



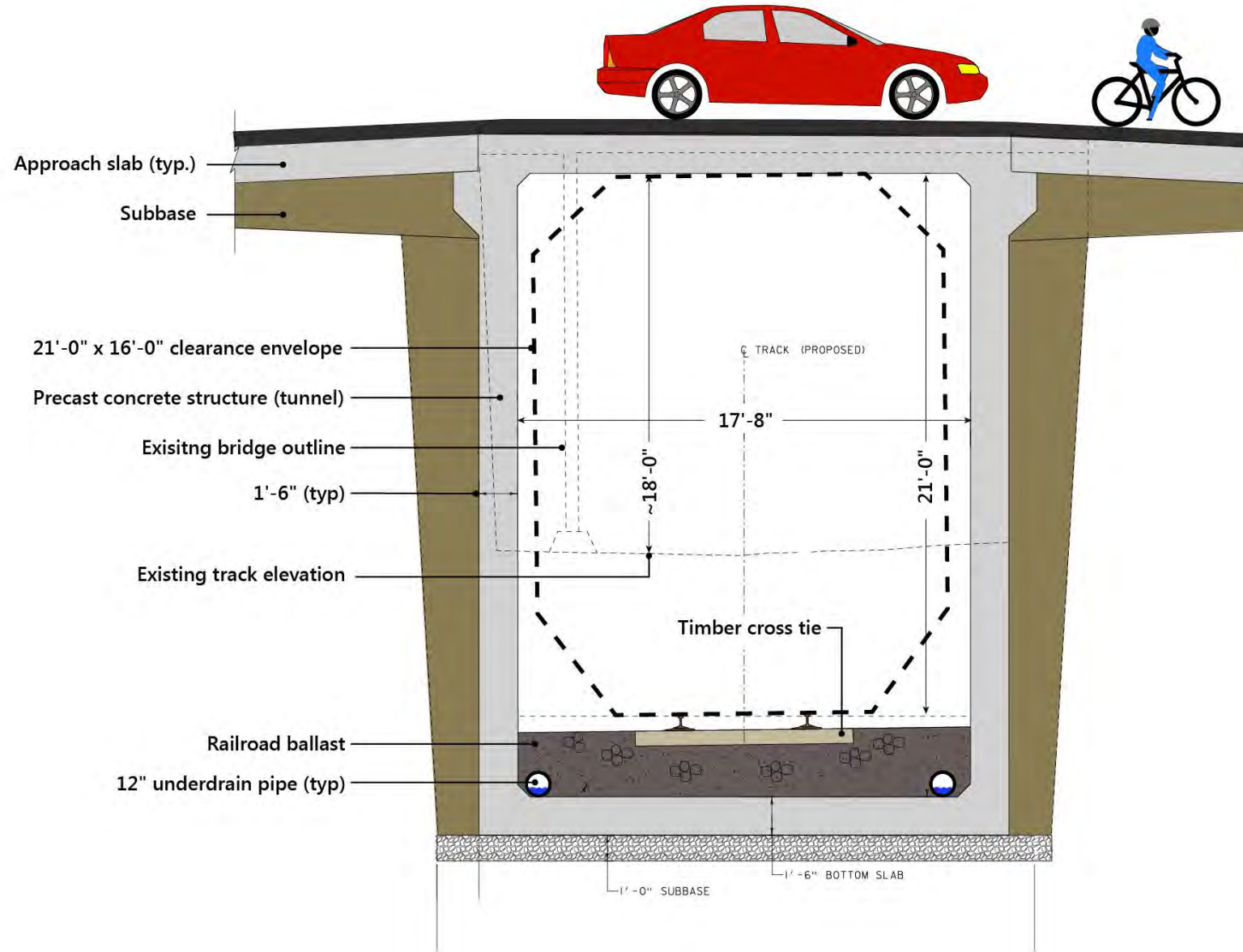
**Big question:**

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

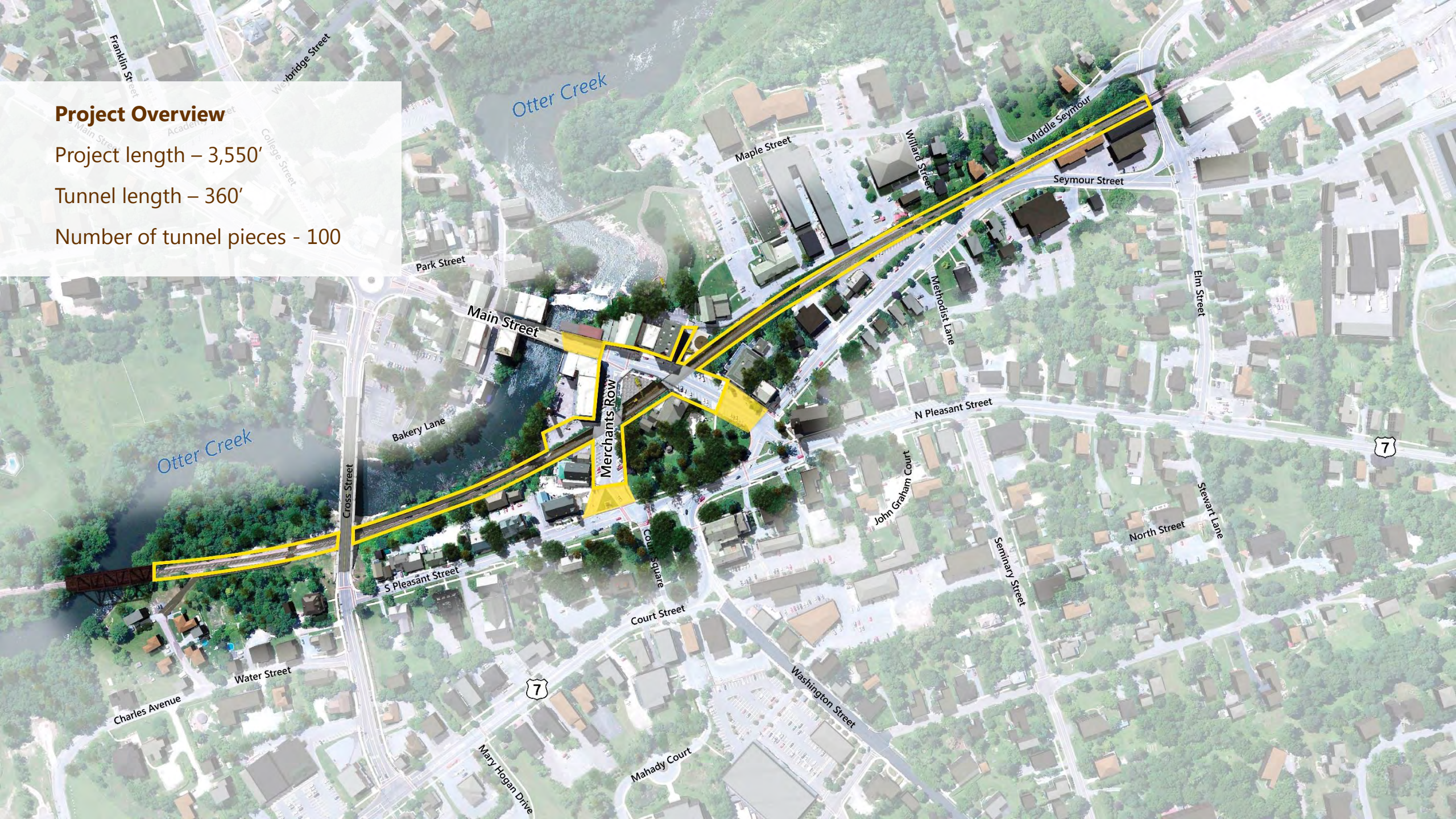


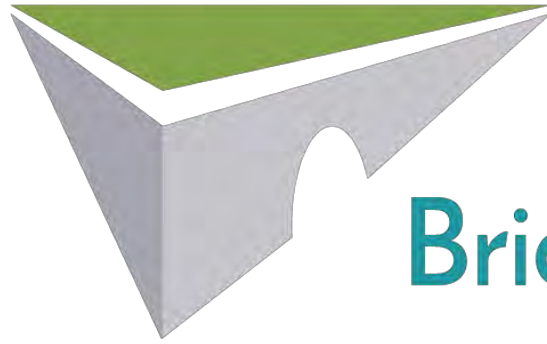
## Project Overview

Project length – 3,550'

Tunnel length – 360'

Number of tunnel pieces - 100





# Middlebury Bridge & Rail Project

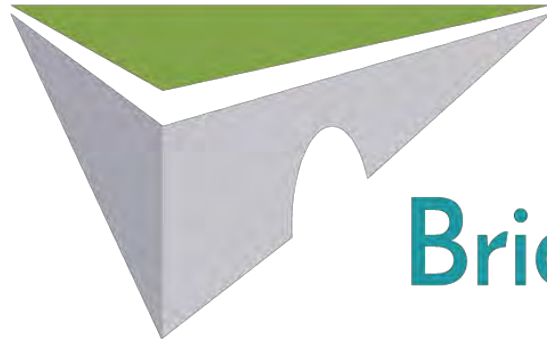
2016

2017

2018

2019

2020



# Middlebury Bridge & Rail Project

2016

2017

2018

2019

2020



# 2016 Construction Activity

- Tree cutting
  - Bat impact avoidance
  - Utilities



2016

2017

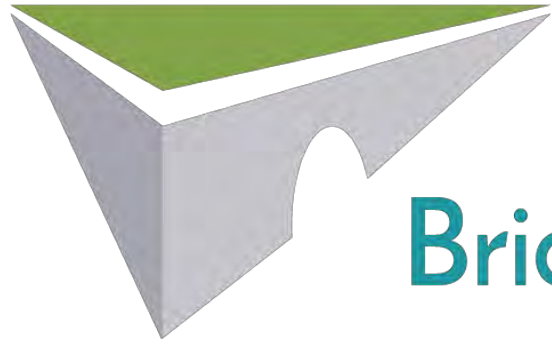
2018

2019

2020

Winter 2016 Tree cutting





# Middlebury Bridge & Rail Project

2016

2017

2018

2019

2020

# 2017 Construction Activity

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

2016

2017

2018

2019

2020

Summer 2017 Temporary access road



2016

2017

2018

2019

2020

**2017** Drainage system installation

Drainage outfall/  
receiving shaft 1

Drive 1

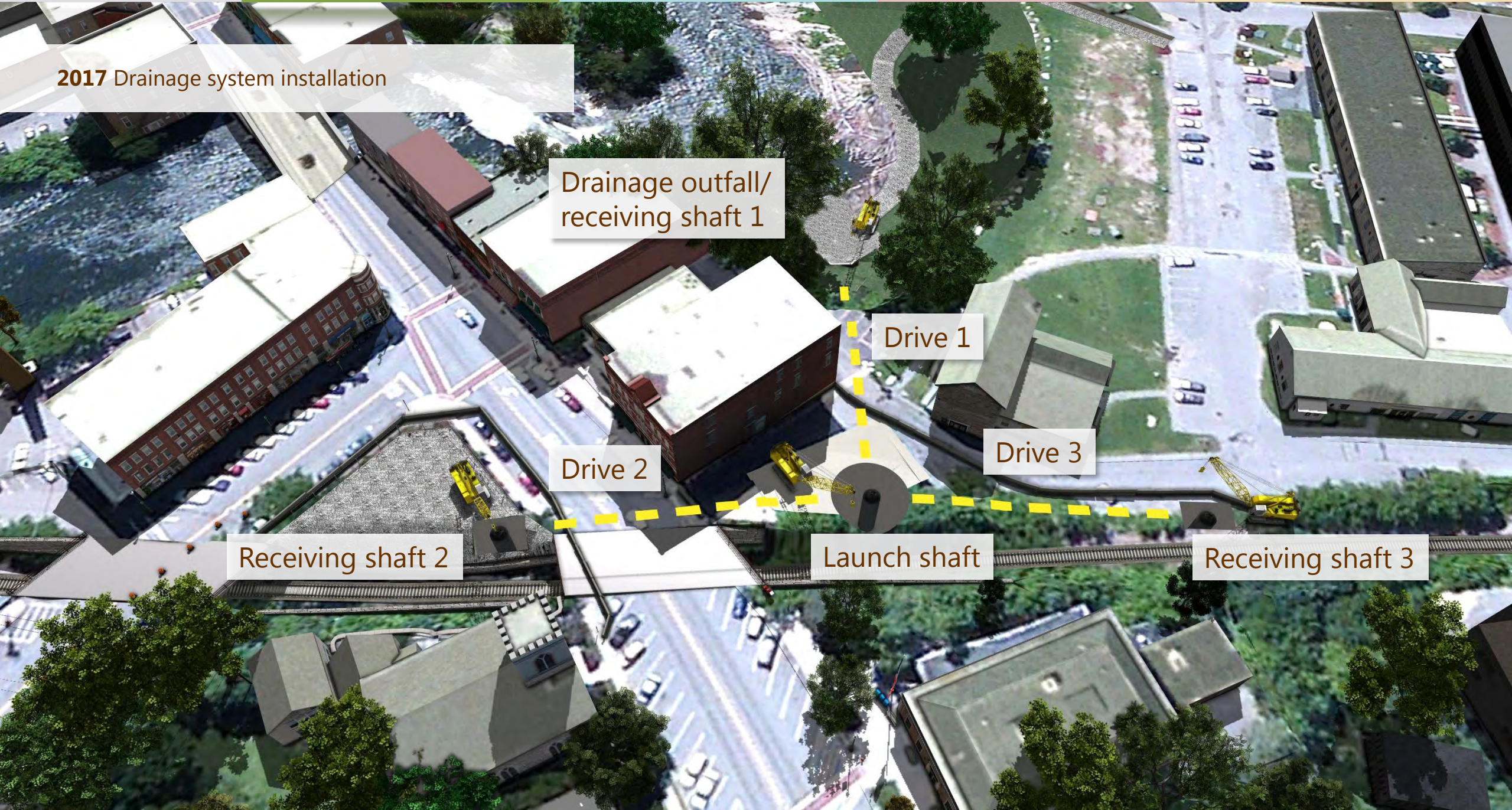
Drive 2

Drive 3

Receiving shaft 2

Launch shaft

Receiving shaft 3

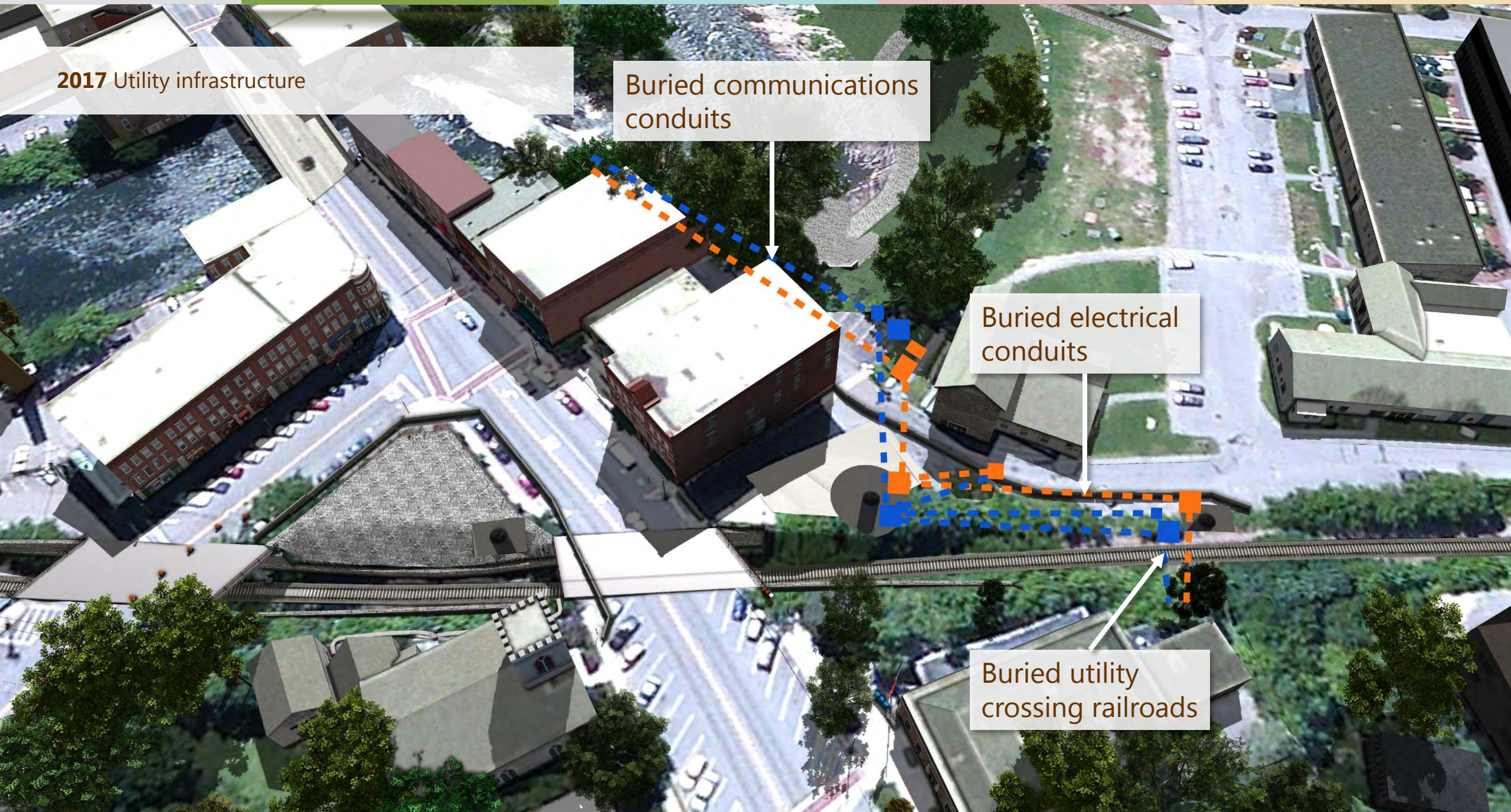


2017 Utility infrastructure

Buried communications conduits

Buried electrical conduits

Buried utility crossing railroads



2016

2017

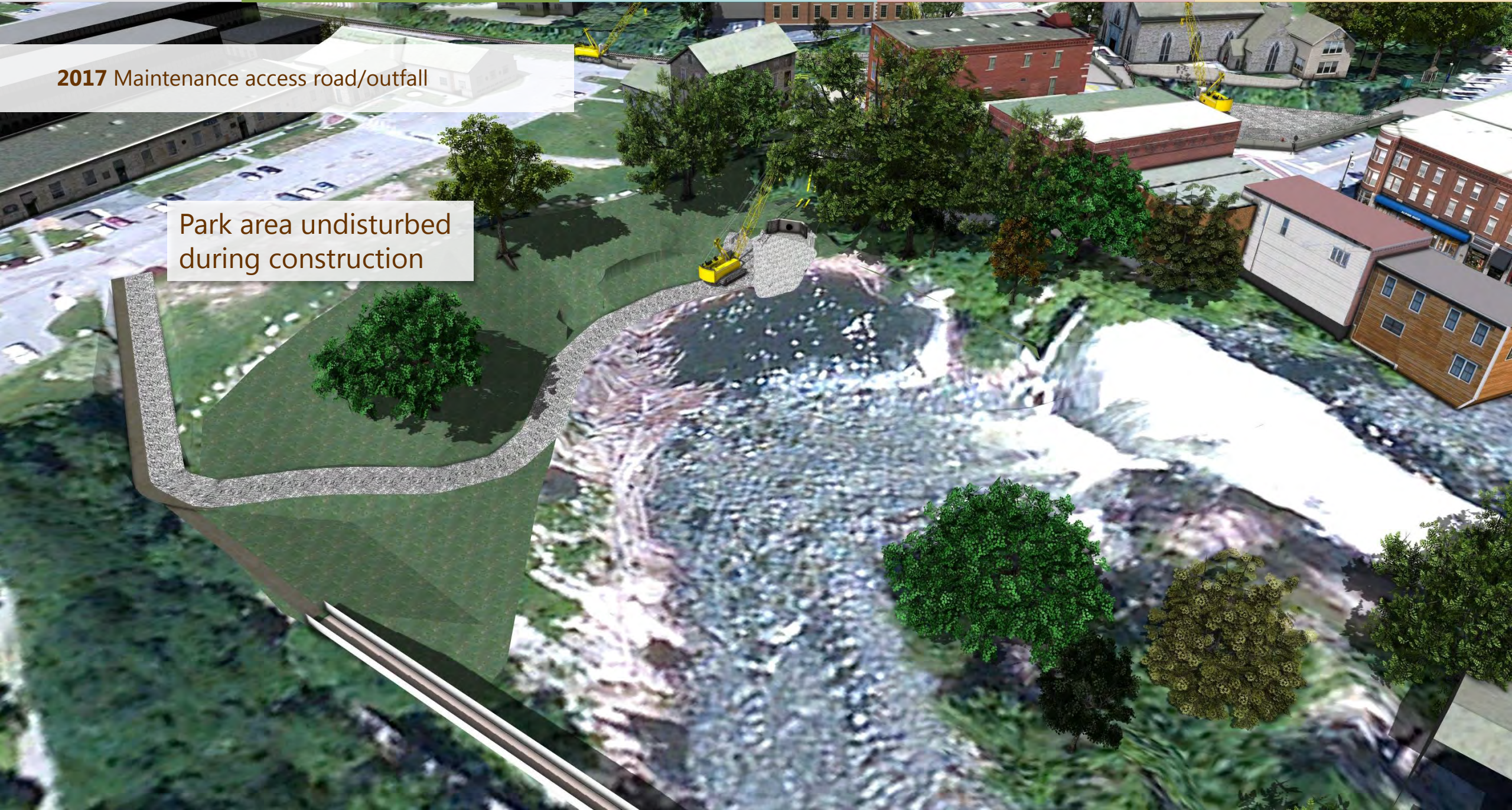
2018

2019

2020

2017 Maintenance access road/outfall

Park area undisturbed during construction





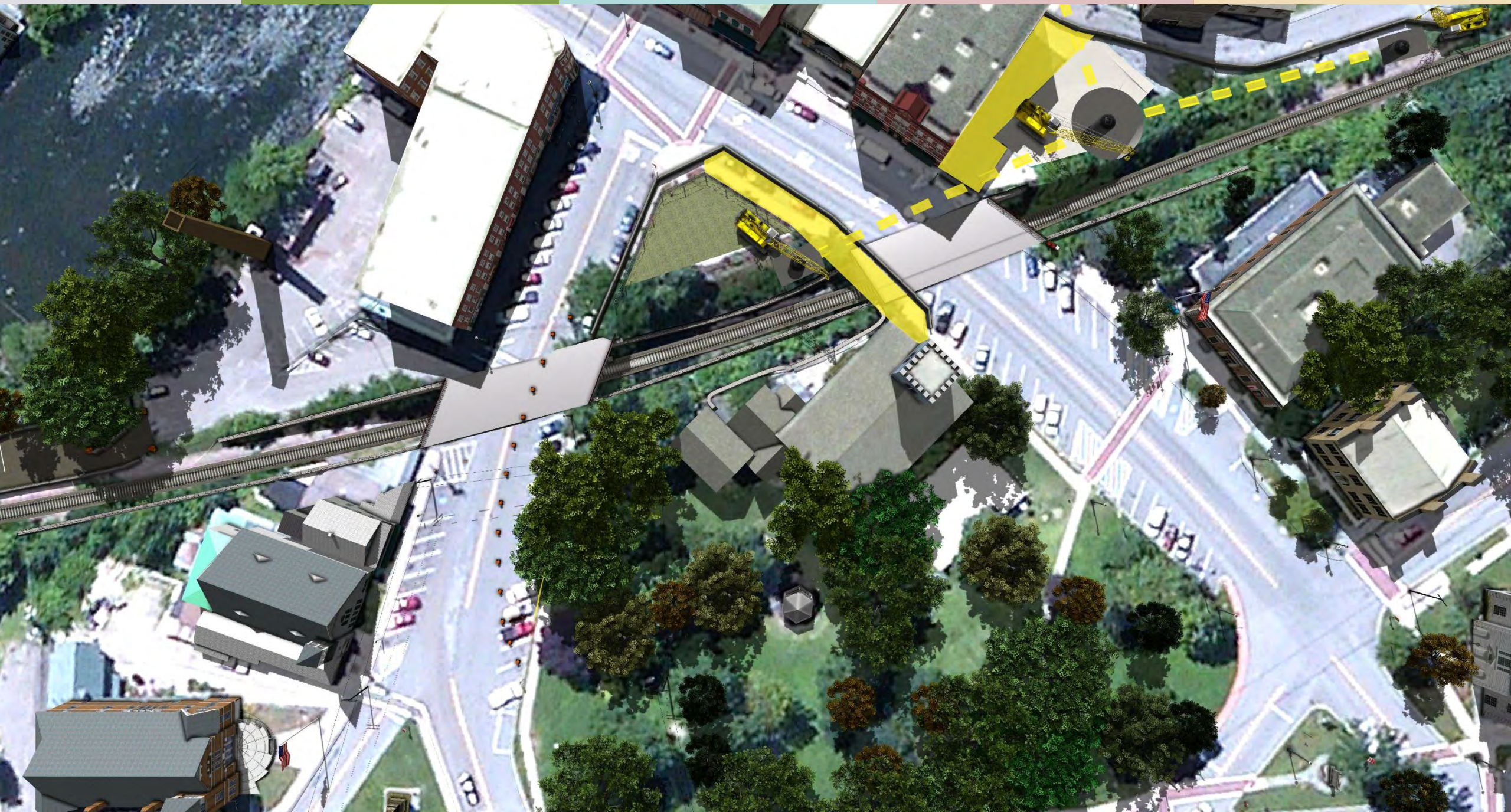
2016

2017

2018

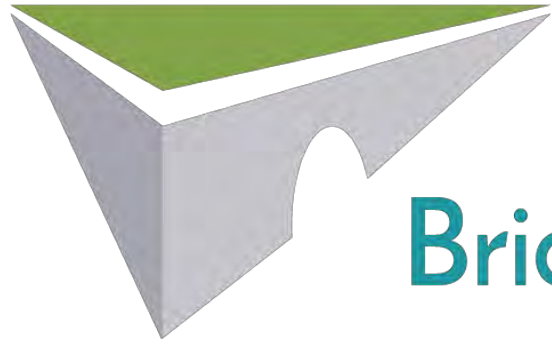
2019

2020



# 2017 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



# Middlebury Bridge & Rail Project

2016

2017

2018

2019

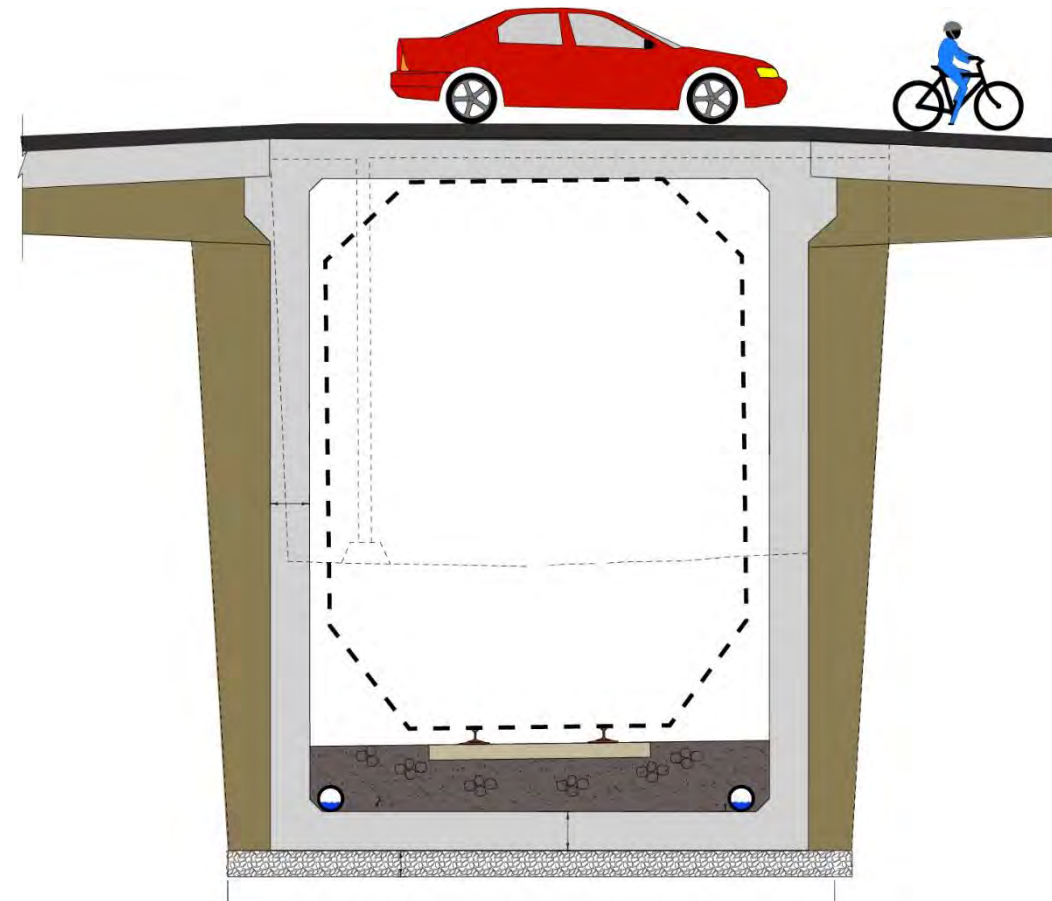
2020

# 2018 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



2016

2017

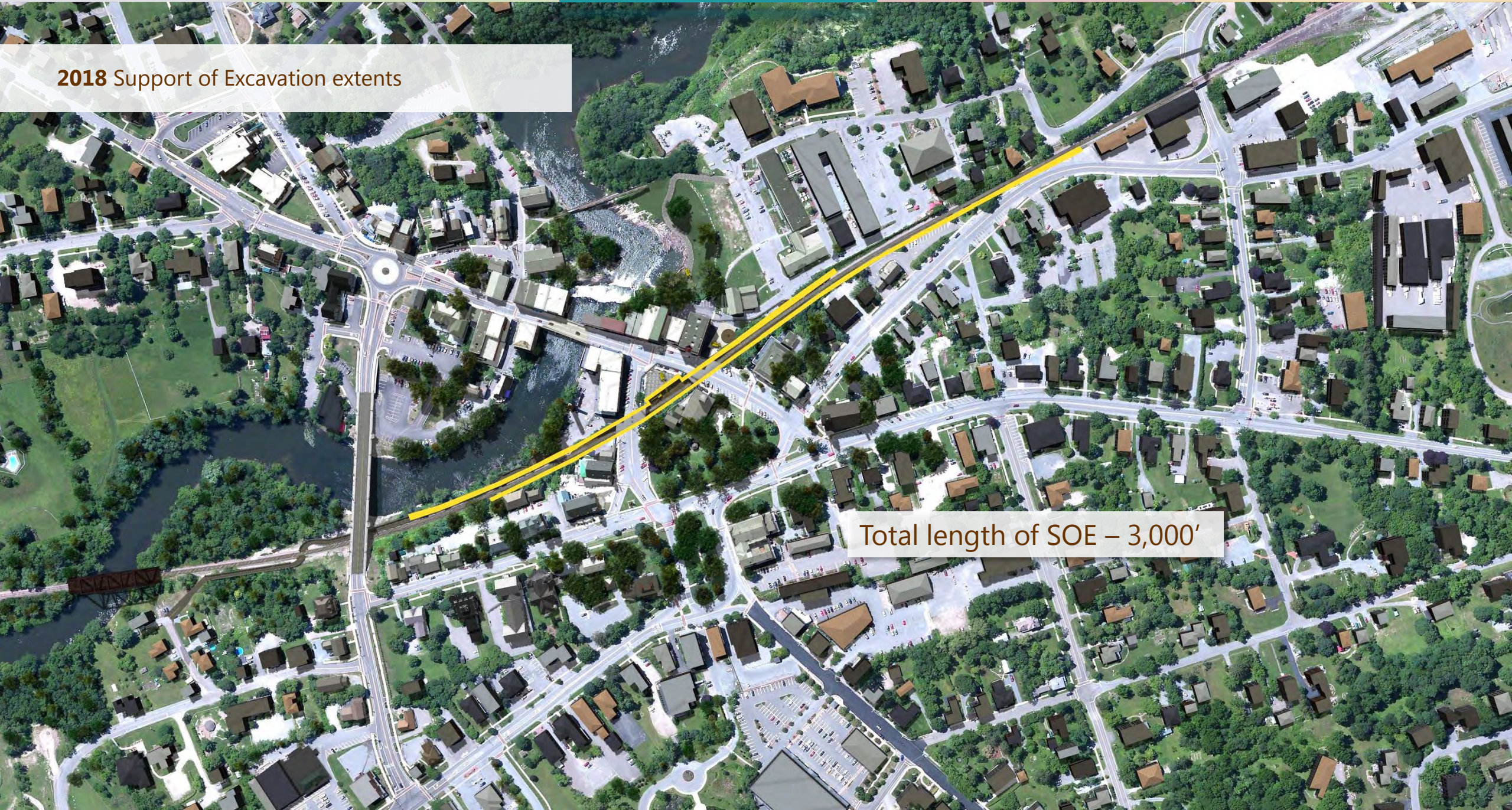
2018

2019

2020

**2018** Support of Excavation extents

Total length of SOE – 3,000'



2016

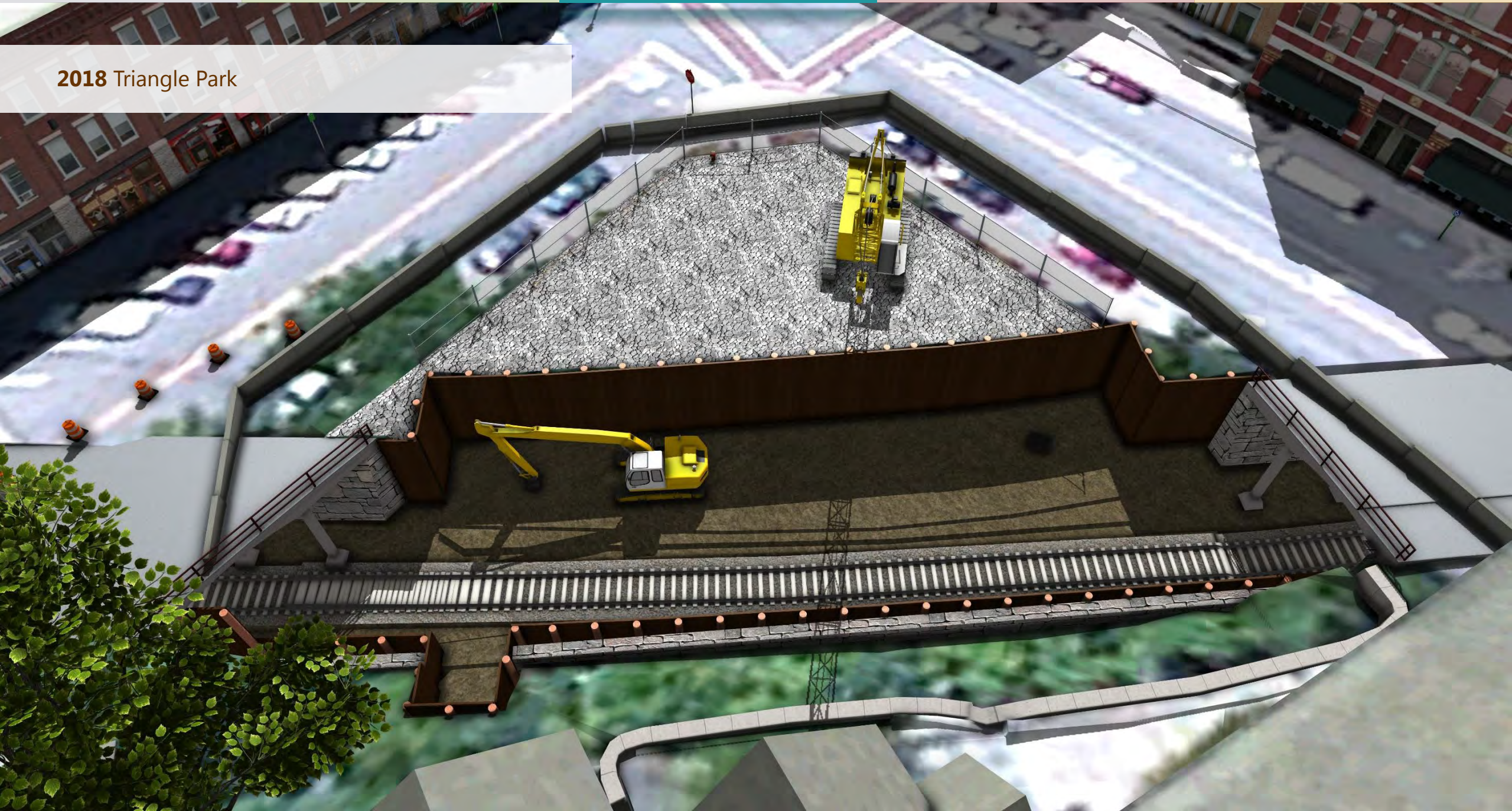
2017

2018

2019

2020

**2018** Triangle Park



2016

2017

2018

2019

2020

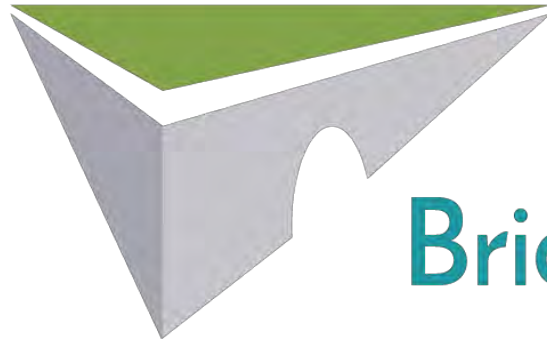
**2018** Traffic and pedestrian impacts





# 2018 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



# Middlebury Bridge & Rail Project

2016

2017

2018

**2019**

2020

# 2019 Construction Activity

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

## 2019 Closure Activity (10 Weeks)

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

2016

2017

2018

2019

2020

### 2019 Closure

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



2016

2017

2018

2019

2020

**2019 Closure**

- Earth excavation



2016

2017

2018

2019

2020

### 2019 Closure

- U-walls set
- Earth excavation
- Rock excavation



2016

2017

2018

2019

2020

### 2019 Closure

- Precast tunnel placement
- Railroad approach excavation





2016

2017

2018

2019

2020

## 2019 Closure

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



2016

2017

2018

2019

2020

### 2019 Closure

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





**2019** Road closures

Otter Creek

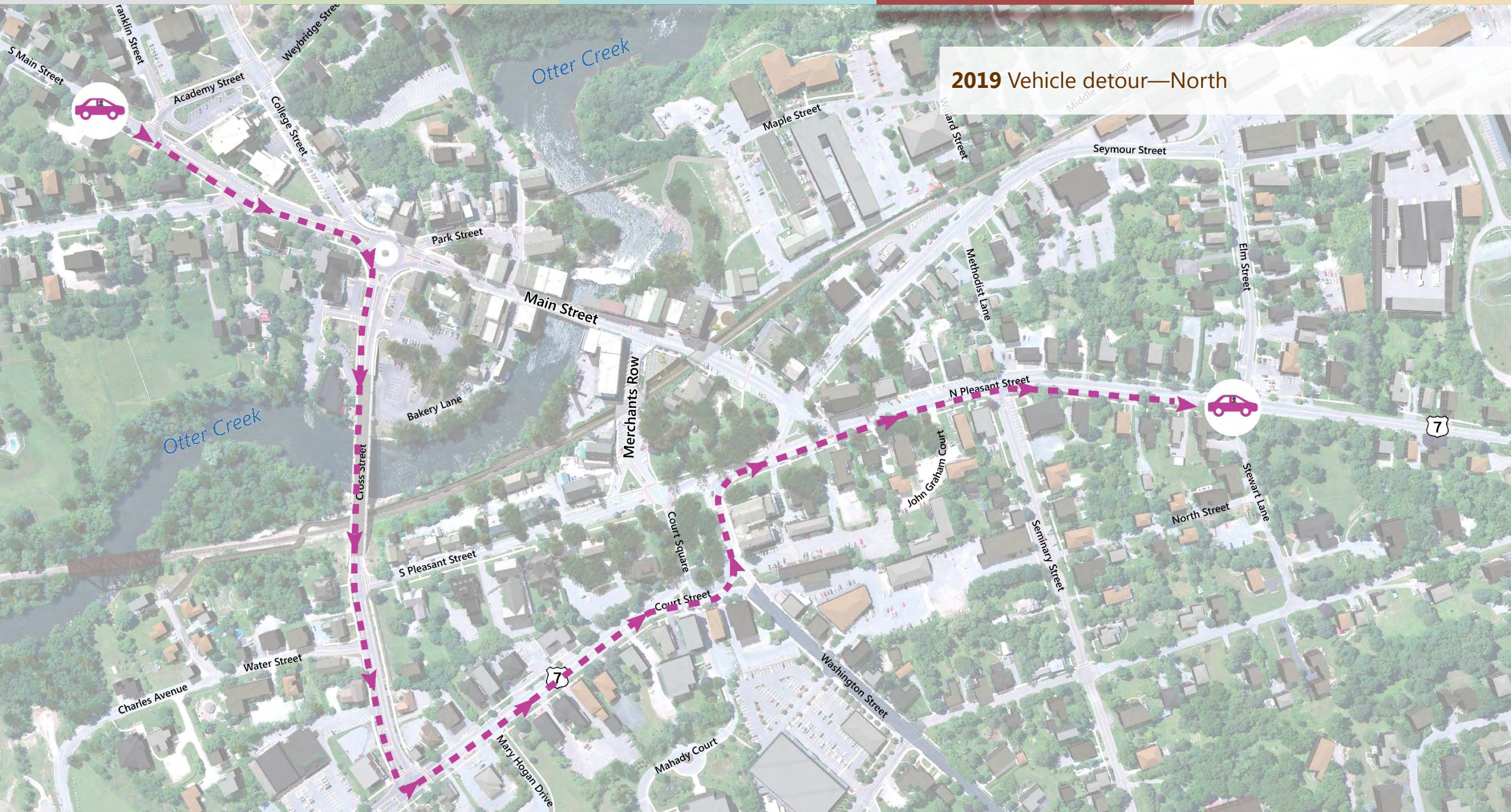
Otter Creek

Main Street

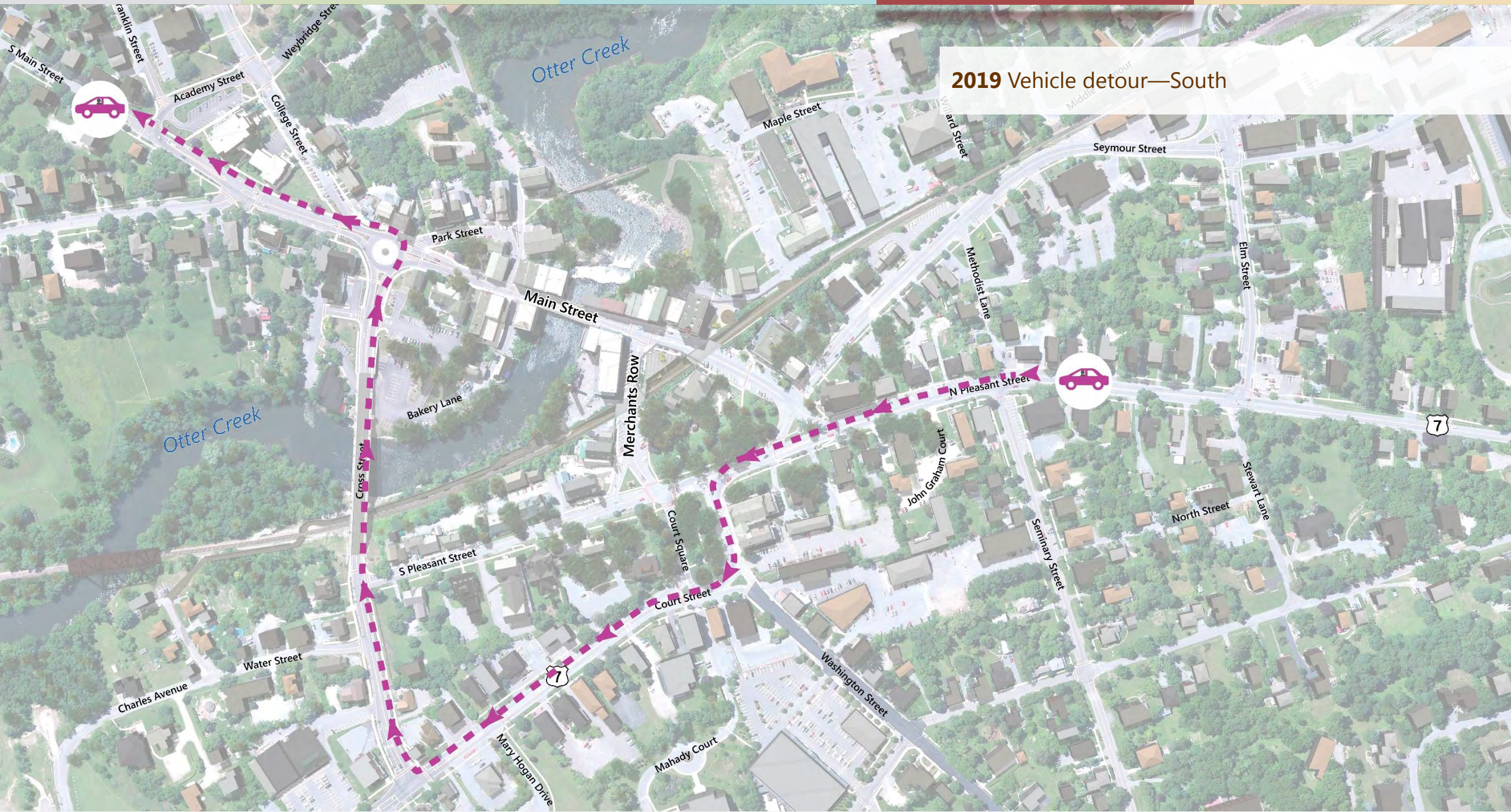
Merchants Row

2019 Road closures

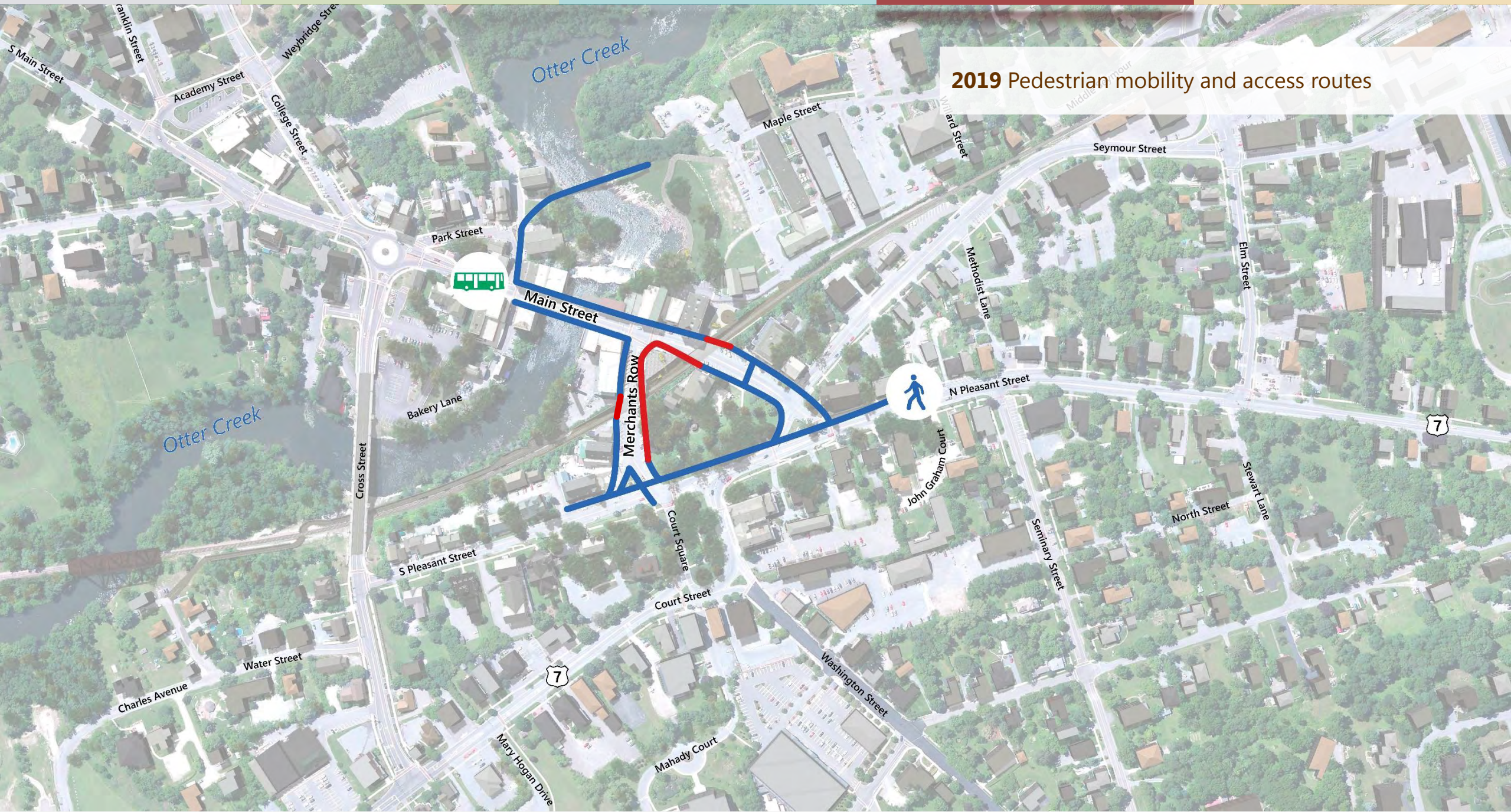
2019 Vehicle detour—North



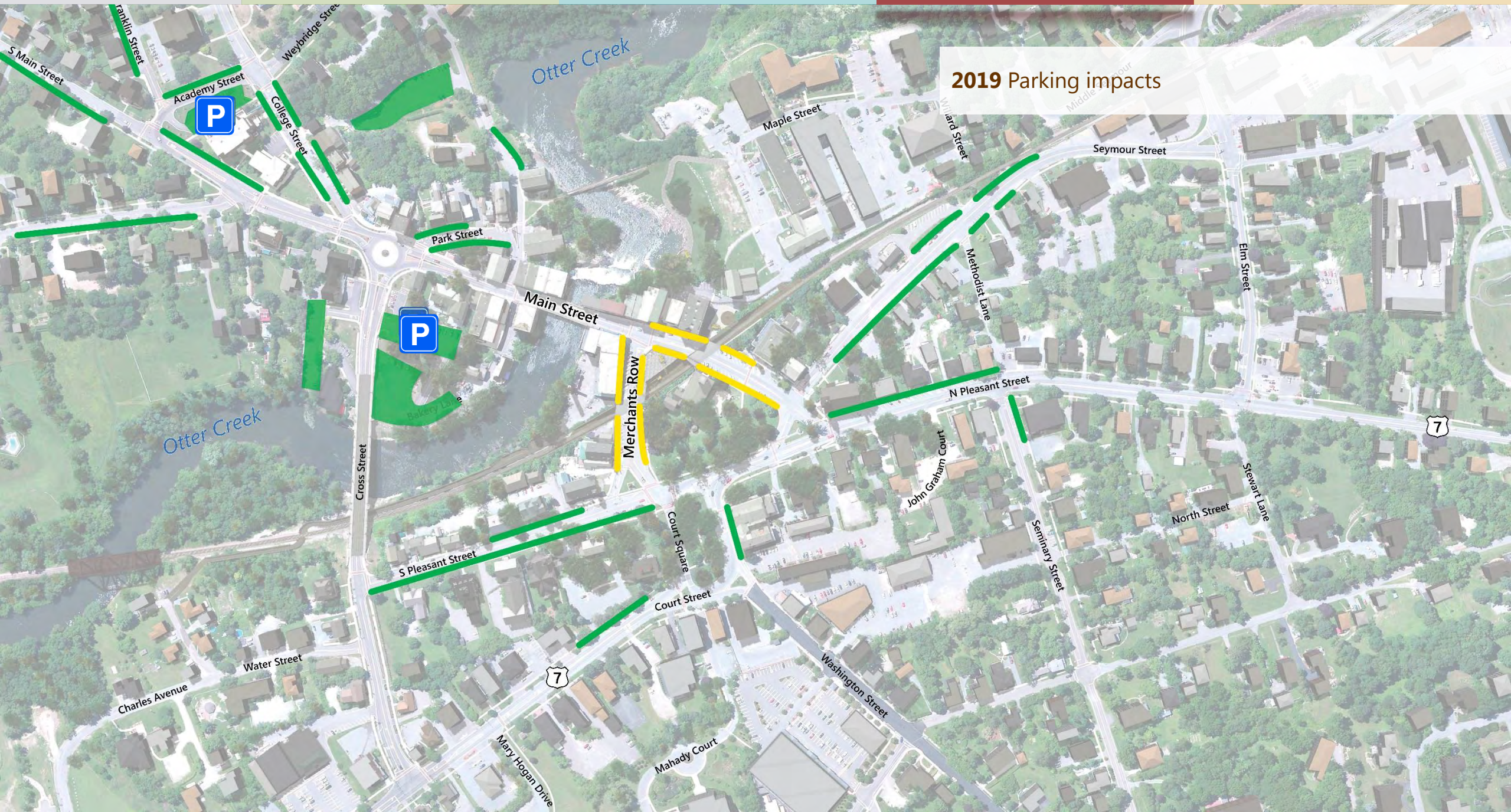
2019 Vehicle detour—South



2019 Pedestrian mobility and access routes



2019 Parking impacts



# 2019 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



# 2019 Post-Closure Activity

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

2016

2017

2018

2019

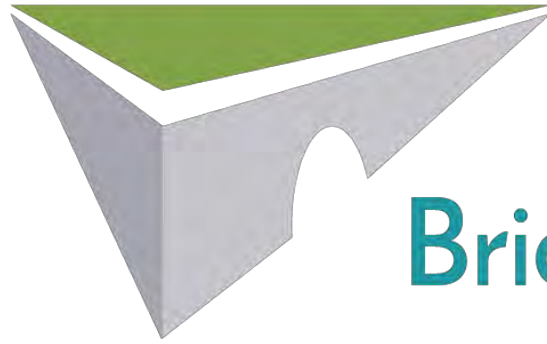
2020

**2019** Post-closure, tunnel complete and roads open



# 2019 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



# Middlebury Bridge & Rail Project

2016

2017

2018

2019

2020

# 2020 Construction Activity

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

2016

2017

2018

2019

2020

**2020** Project completion

Printer's Alley reconstruction

Improved vehicular and pedestrian access



# 2020 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 2019 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?





# Recap of Community Project Goals

- Protect the safety of the community: people, property, environment
  - Quarterly bridge safety inspections
  - Construction fencing and barricades
  - Due diligence with contaminants, structural integrity of buildings, and traffic control



# Recap of Community Project Goals

- Maintain traffic flow and pedestrian access to the greatest extent possible
  - Minor traffic and pedestrian impacts during 2017, 2018, and 2020 allowing to plan for major impacts
  - Major traffic and pedestrian impacts for 10 weeks in 2019



# Recap of Community Project Goals

- Minimize the project impact on the vitality of the downtown community: businesses, residents, institutions
  - Accelerated construction to reduce impacts to 10 weeks in 2019
  - Clearly defined vehicular and pedestrian detours
  - Downtown pedestrian shuttle bus



# Recap of Community Project Goals

- Develop and maintain a credible project schedule
  - Reset design and construction critical path schedules
  - Track potential schedule risks
  - Transparent communication regarding schedule and status of risks



# Recap of Community Project Goals

- Engage with the local community and facilitate clear communication with all stakeholders
  - Community engagement through public meetings
  - Public facing website and social media updates
  - Individual project stakeholder meetings
  - Transparent communication and updates



# Our Approach to Public Outreach

- Open and continuous communication
  - Project phone number (802) 272-1248
  - E-alerts/project updates
  - Meetings—large and small
  - Project website
  
- Identify opportunities to collaborate
  - Scheduling
  - Site tours/education programs



# vtrans.vermont.gov/projects/middlebury



VERMONT OFFICIAL STATE WEBSITE



STATE OF VERMONT  
**Agency of Transportation**

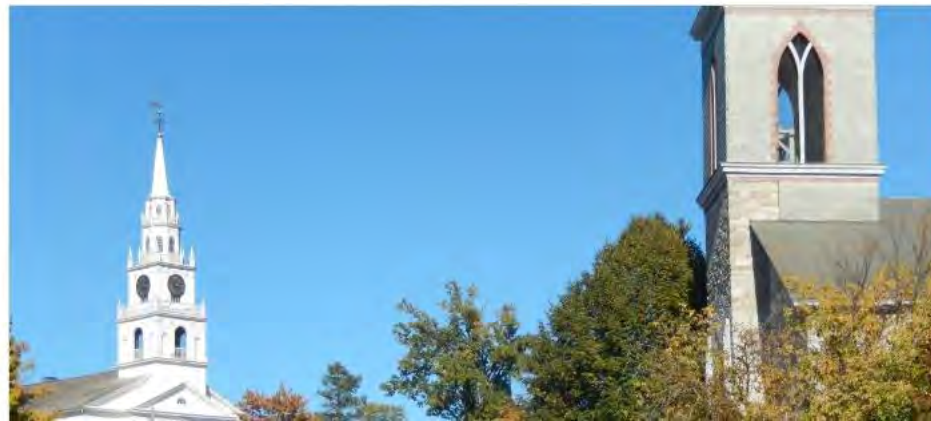
- About the Project
- Schedule
- Documents Library
- FAQs
- Contact Us



## 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 17<sup>th</sup> at Town Hall Theater, Middlebury

**December:**  
Tree clearing along rail line scheduled.





**Why we love Middlebury!**

