

Bike Walk Advisory Committee

7:00 PM Monday, March 20, 2023

This meeting will be in person at 2 Lincoln Street and available remotely.

The meeting will take place in the multi-purpose room located in the back of the Recreation building.

- Join via Zoom: [Click here to join the meeting](#)
- Join via conference call (audio only): 1(888) 788-0099 | Conference ID: 958 5750 2850

AGENDA

Committee Members: Micah Hagan, Chair; Eric Bowker, Evan Lawrence, Chris Kline, Aaron Todd and Stefan Fetterhoff, Tacy Lincoln

1. Call to Order
2. Determine who will take minutes.
3. Changes to Agenda/Review/Approval of Minutes
4. Roadway safety in the Brooks Ave neighborhood
5. Review RRFB order
6. Chris Yuen - Community Development Director
 - Upcoming Project Updates
 - Looking ahead to Future Projects
7. Land Development code updates
8. Next BWAC Meeting: **April 17, 2023**
9. Meeting Adjournment

Bike Walk Advisory Committee

7:00 PM Monday, January 23, 2023

This meeting will be in person at 2 Lincoln Street and available remotely.

- Join via Zoom: [Click here to join the meeting](#)
- Join via conference call (audio only): 1(888) 788-0099 | Conference ID: 958 5750 2850

Minutes

Committee Members: Micah Hagan, Chair; Eric Bowker, Evan Lawrence, Chris Kline, Aaron Todd and Stefan Fetterhoff

1. Call to Order
2. Determine who will take minutes. - Evan Lawrence
3. Changes to Agenda/Review/Approval of Minutes - Eric approved last weeks minutes, seconded by the rest of the group.
4. RRFB status - Rapid Rectangular Flashing Beacon - Finalizing PO through City of Essex Junction - Spring construction is the expected timetable
5. Grove Street Crossing- Susan presented 3 possible alternatives to improving pedestrian safety. Committee members spoke briefly on each options and will work with Local Motion to implement an agreed upon "pop up" to test alternatives.
6. Letter of support on behalf of Local Motion - reviewed by committee
7. Susie Wilson project Status - Micah will reach out to the village to see if there are meetings BWAC can attend. 1 to 2 year proposal for breaking ground.
8. Next BWAC Meeting: **TBA - Feb 13th 7pm**
9. Meeting Adjournment - 7:40pm

Bike-network Data / Mapping Project

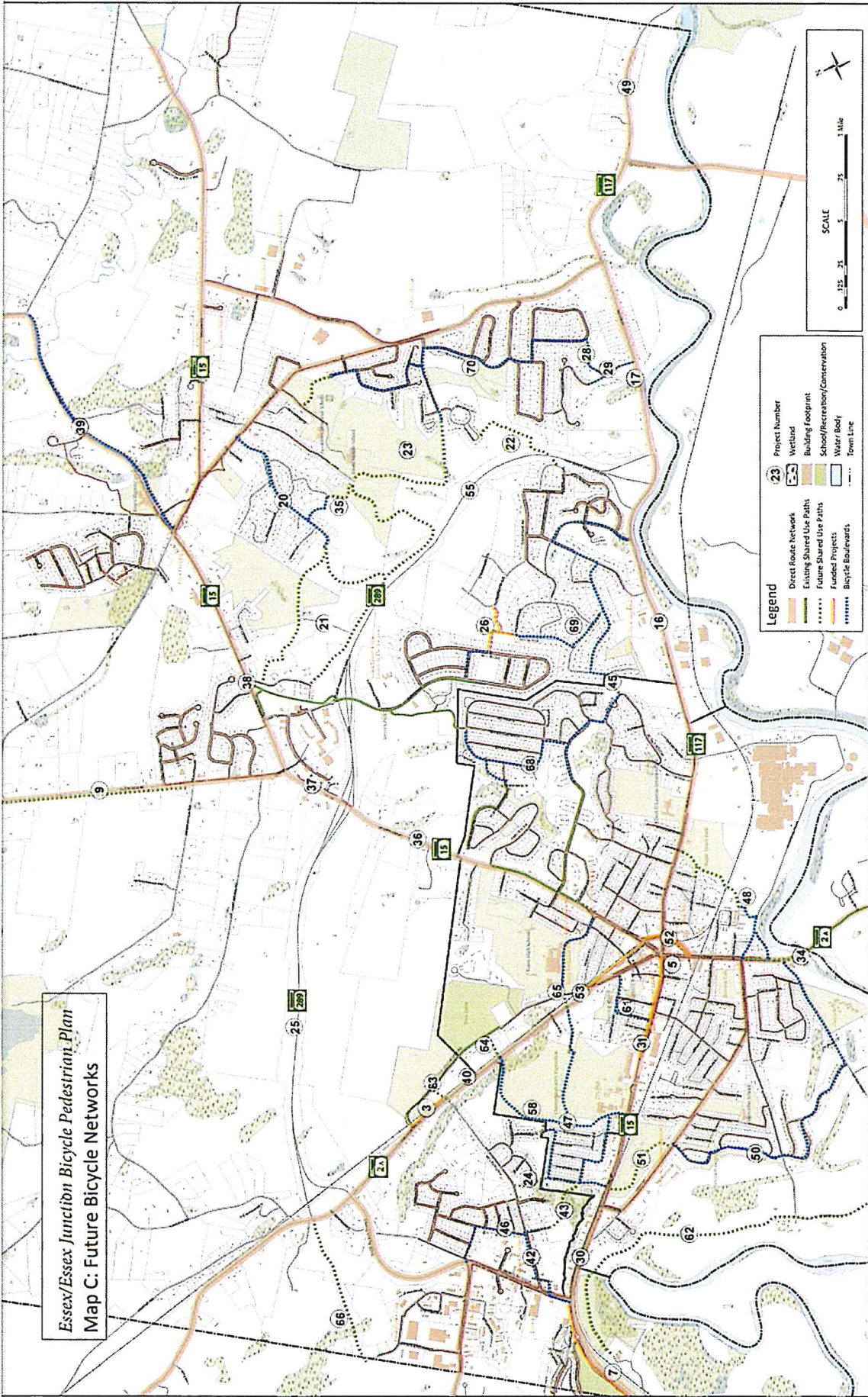
For Essex Junction Bike-Walk Advisory Committee
March 20, 2023

Prepared by Chris Yuen – Director of Community Development

Problem

- Data on existing bike infrastructure in EJ is inconsistent / hard to find

Essex/Essex Junction Bicycle Pedestrian Plan
 Map C: Future Bicycle Networks



- Legend**
- Direct Route Network
 - Existing Shared Use Paths
 - Future Shared Use Paths
 - Funded Projects
 - Bicycle Boulevards
 - Wetland
 - Building Footprint
 - School/Recreation/Conservation
 - Water Body
 - Town Line



Map 6: Non-Motorized Transportation Essex Junction 2019 Village Plan



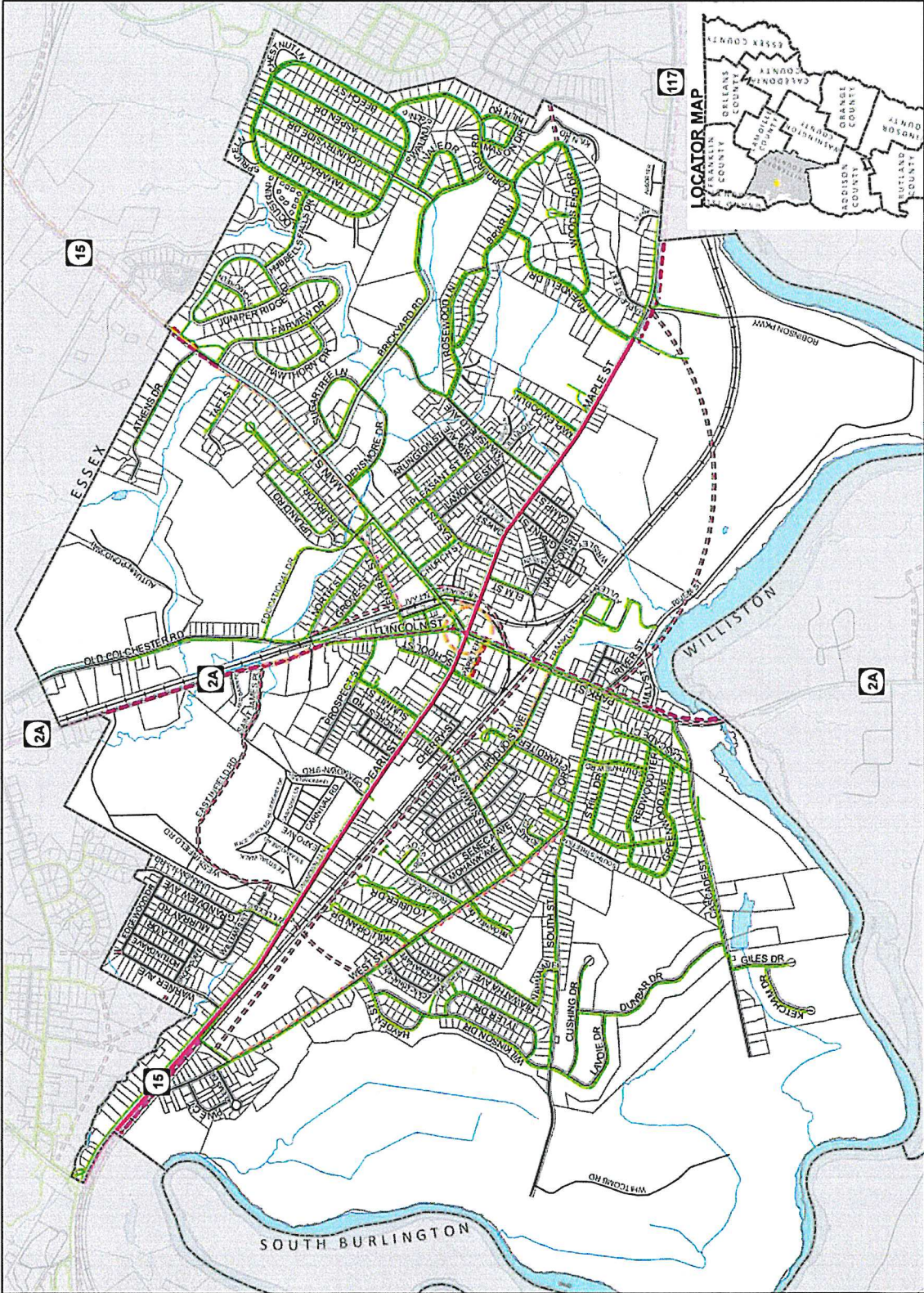
Legend

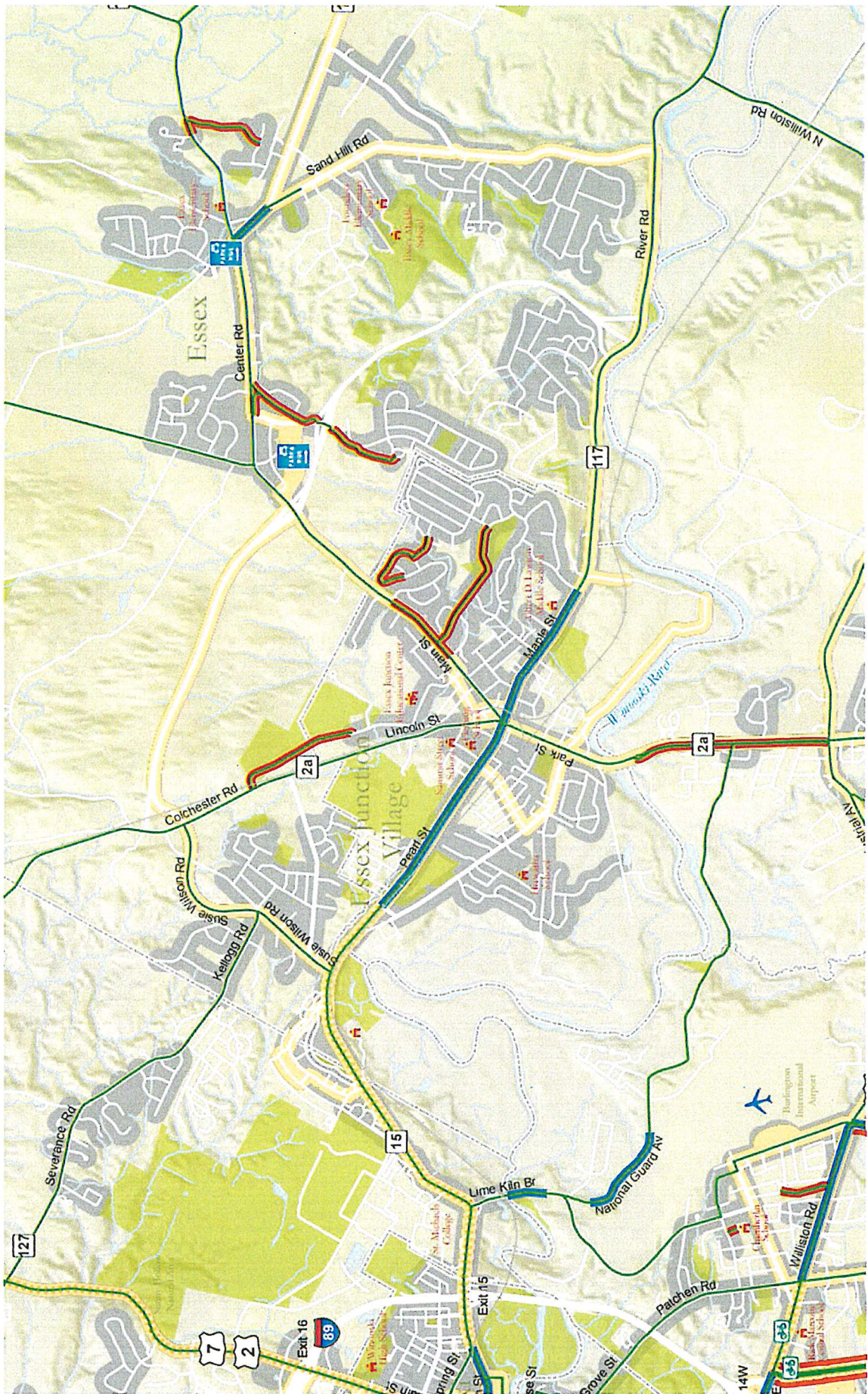
- Existing**
- Sidewalk
 - Shared Use Path
 - On-road Bike Lane
- Future**
- Bike Lane/Boulevard/Sharrow
 - Median Refuge/Textured Crossing/
Bike Lane
 - Raised Crossing/RRFB
 - Shared Use Path
 - Sidewalk
 - Sidewalk/Shared Use Path
 - Road Centerline
 - Railroad
 - 2018 Tax Parcel Boundary

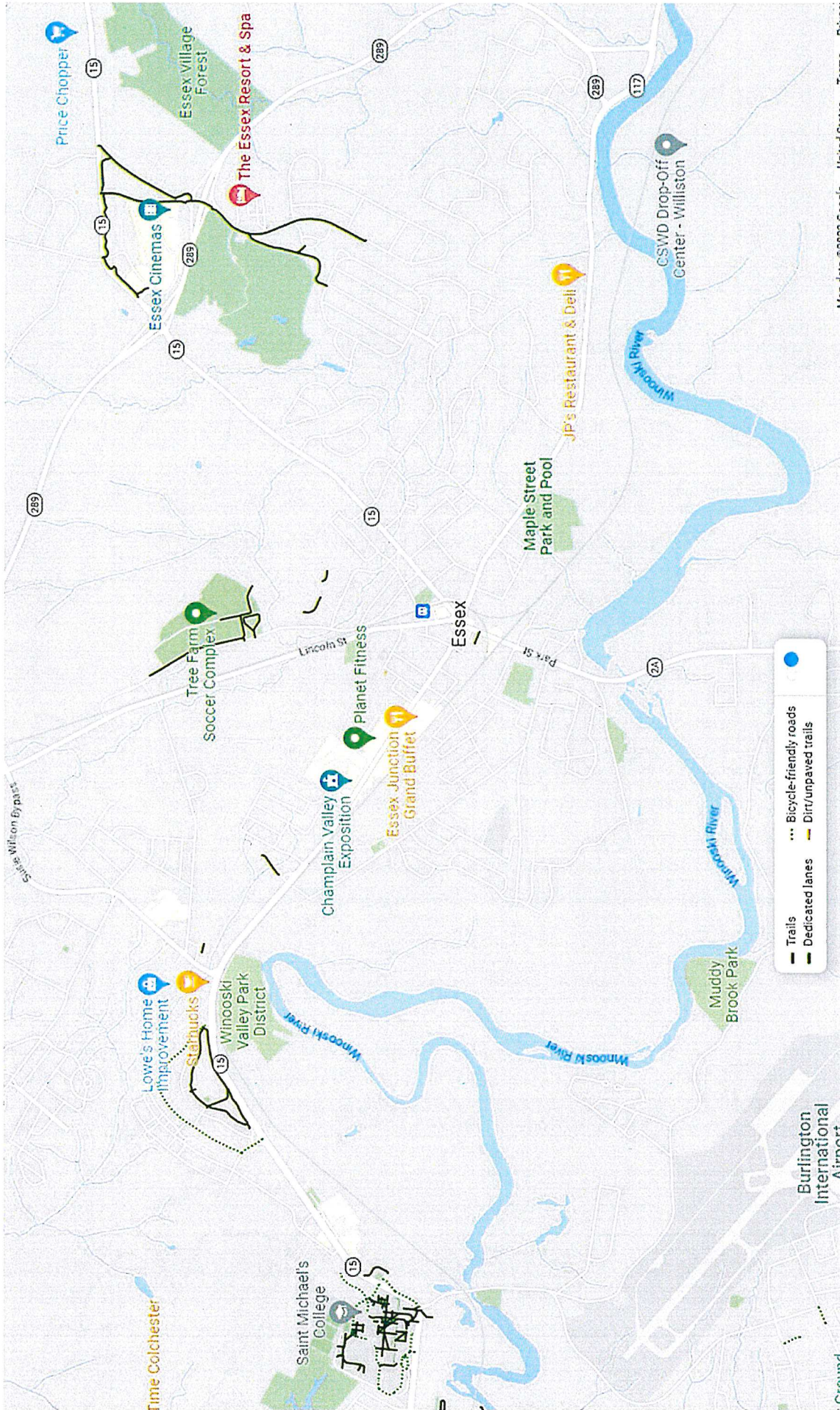


Source:
Future non-motorized transportation - 2015 Bike Ped Plan; Dubois & King; Existing Bike/Ped - CC&PC, 2017
Parcels - 2018 updated through Vermont Parcel Program
Road Centerline - e911, 1/2019; Railroad - VTrans
Map created by P. Brangan using ArcGIS Pro. All data is in State Plane Coordinate System, NAD 1983.

Disclaimer:
The accuracy of information presented is determined by its sources. Errors and omissions may exist. The Chittenden County Regional Planning Commission is not responsible for these. Questions of on-the-ground location can be resolved by site inspections and/or surveys.







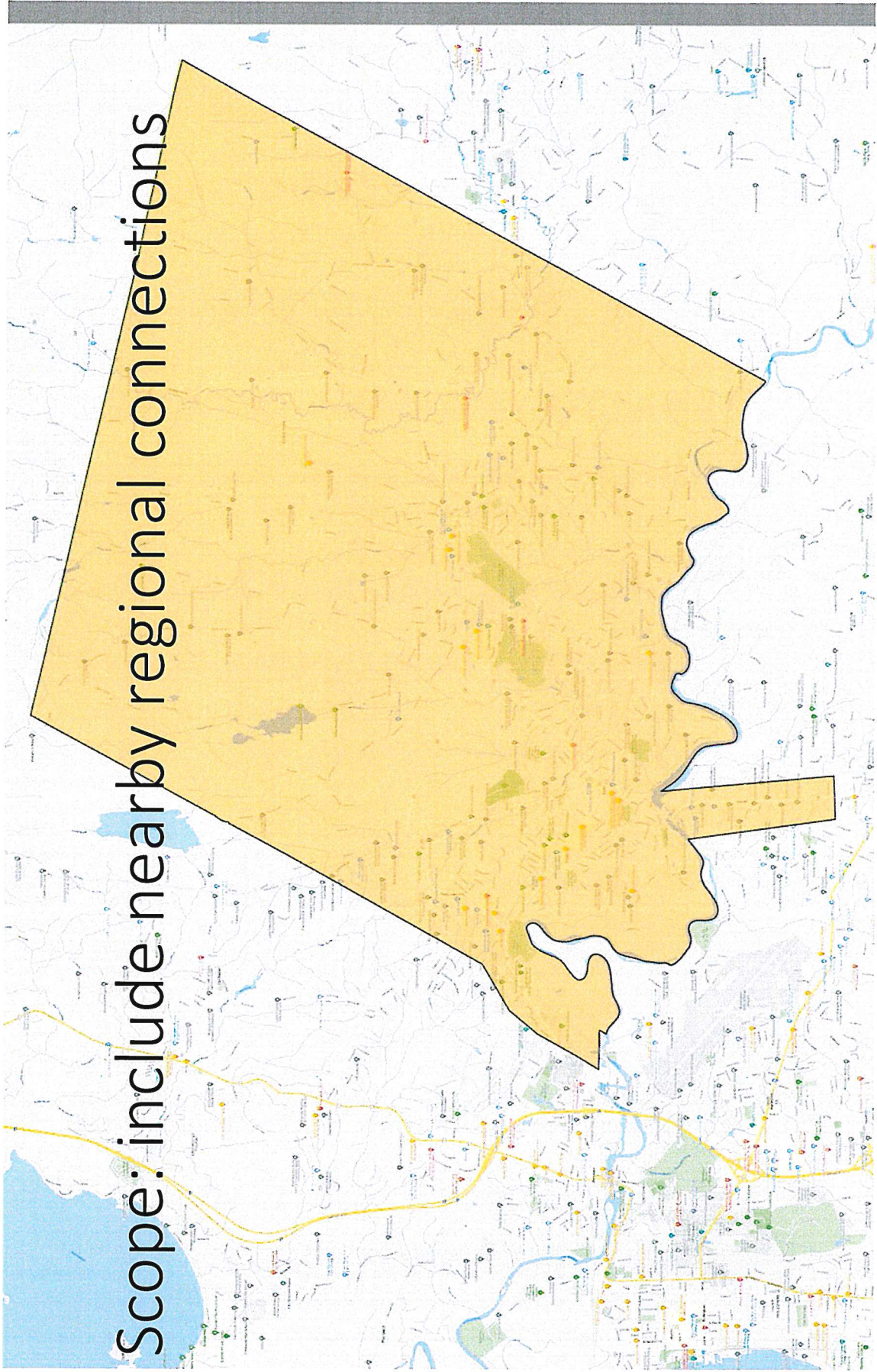
What can we do?

- Combine and check data for accuracy
- Send it to Google Maps through Content Partners
 - Google maps is useful for “network discovery”
 - Google maps is also useful for trip planning
- Have data available for future planning processes

Guiding principles

- Be as accurate as possible
- Don't oversell the network
- For busy roads, make the network gaps clear
- For "bike boulevards" (aka. neighborhood greeways / low-traffic bike routes) highlight:
 - reasonably linear, useful connections
 - Publicly accessible paths

Scope: include nearby regional connections



Next steps:

- Review draft maps and provide comments

Crescent Connector Update

For Essex Junction Bike-Walk Advisory Committee

March 20, 2023

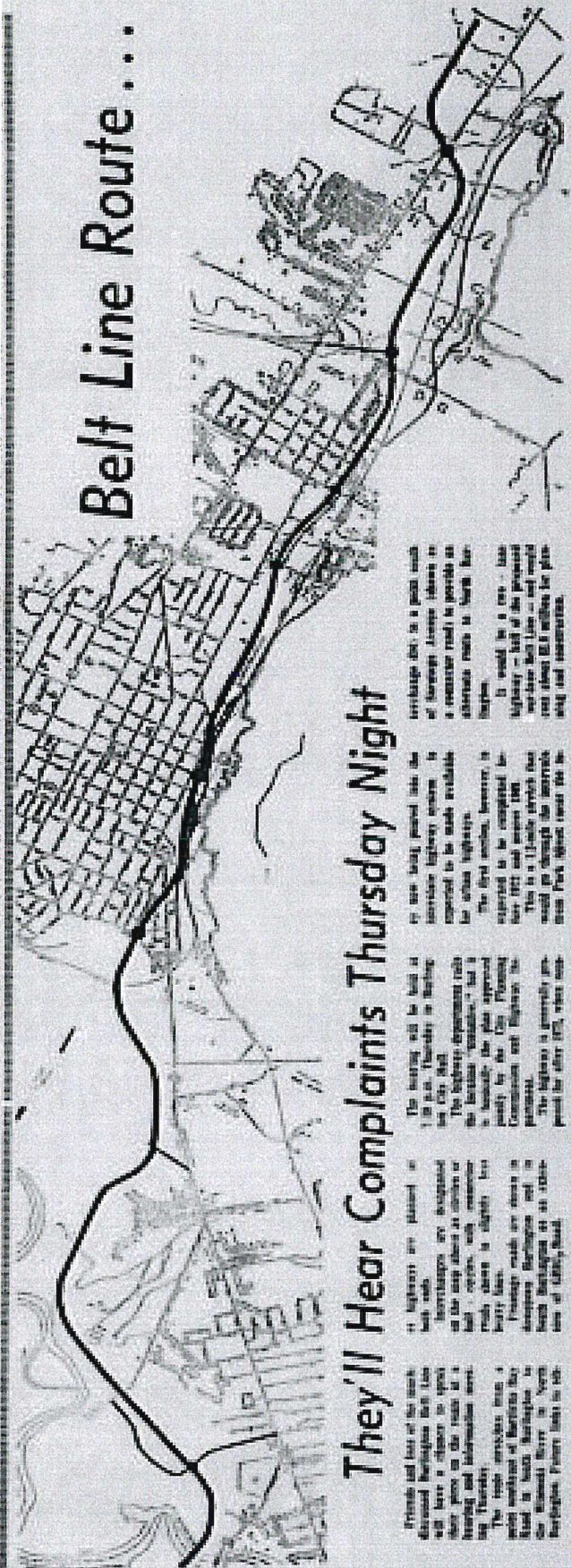
Prepared by Chris Yuen – Director of Community Development

Why are we here?

- 1965 highway-expansion plans
- (map is 1965 highway plans overlaid on top of current map)



Belt Line Route...



They'll Hear Complaints Thursday Night

Friends and foes of the much discussed Burlington Belt Line will have a chance to express their views on the route at a hearing and information meeting Thursday.

The route, announced last month by the Vermont State Highway Department, is a 12-mile route from the Vermont State House in Burlington to the Vermont State Office Building in South Burlington.

Highways are planned in such a way that they are designed to be used as arteries of traffic, not as dead ends, with concrete roads along to slightly less busy lanes.

Proponents of the route in South Burlington and in Vermont State Office Building are at a hearing at 7:30 p.m. Thursday in Burlington City Hall.

The highway department will be holding a hearing at 7:30 p.m. Thursday in Burlington City Hall.

The highway department will be holding a hearing at 7:30 p.m. Thursday in Burlington City Hall.

The first section, however, is expected to be completed by late 1971 and before that.

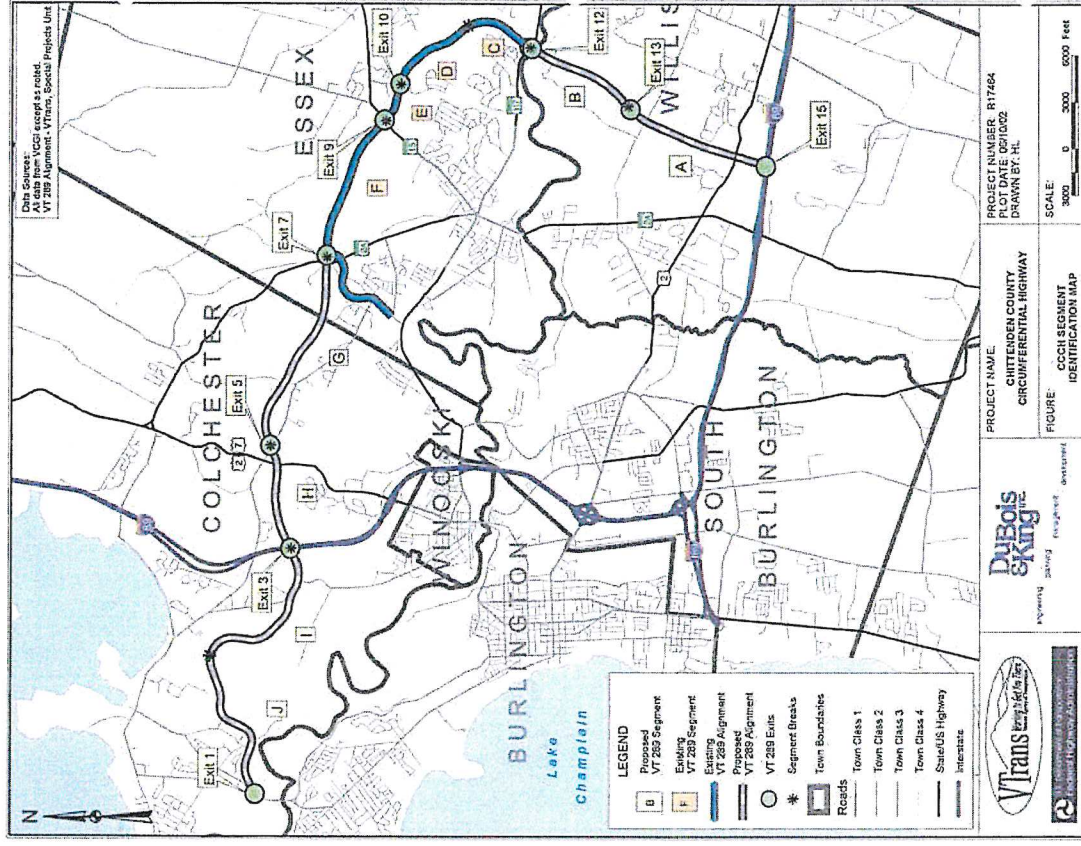
This is a 12-mile stretch that would go through the downtown area of Burlington, Vermont.

It would be a one-way highway - half of the proposed route - and would cost about \$1.5 million for planning and construction.



1980s-90's

- 1965 plans didn't materialize
- ...but evolved into 1980's plan for Circumferential Highway (CIRC)
- Cut short in 2011 due to rising costs / environmental concerns



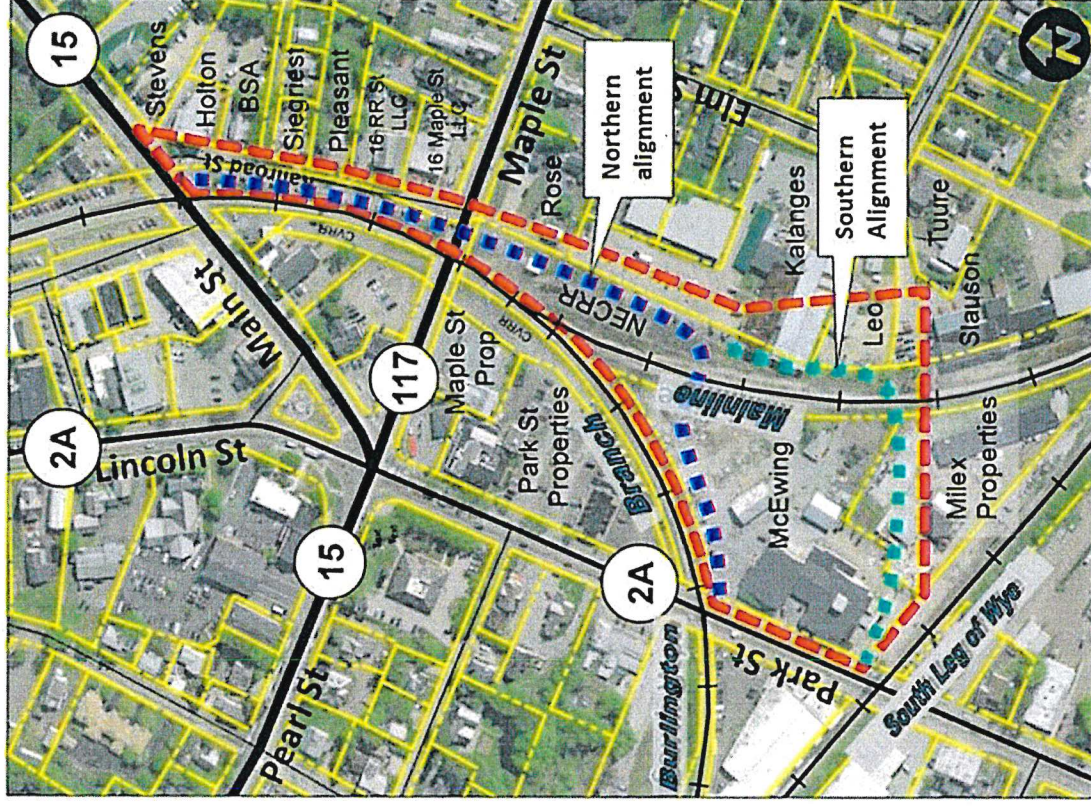
2000's

- Avoided induced demand
- 5- Corners still congested
- Rail crossings adds complication



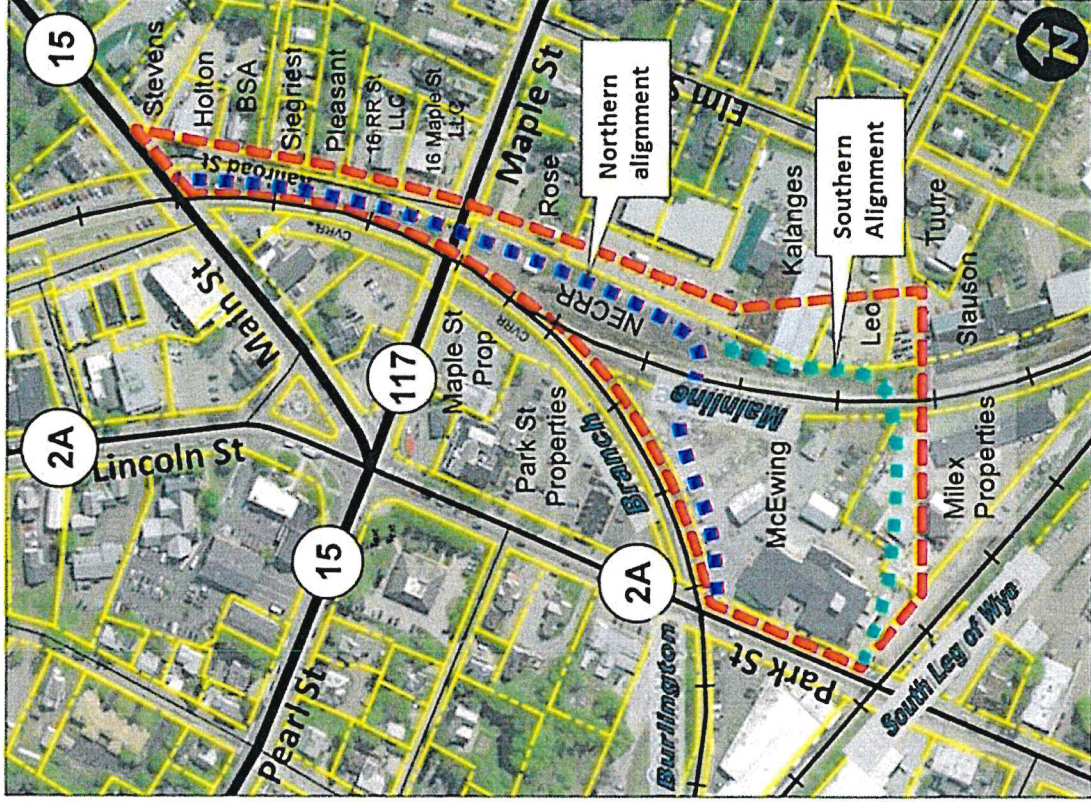
History

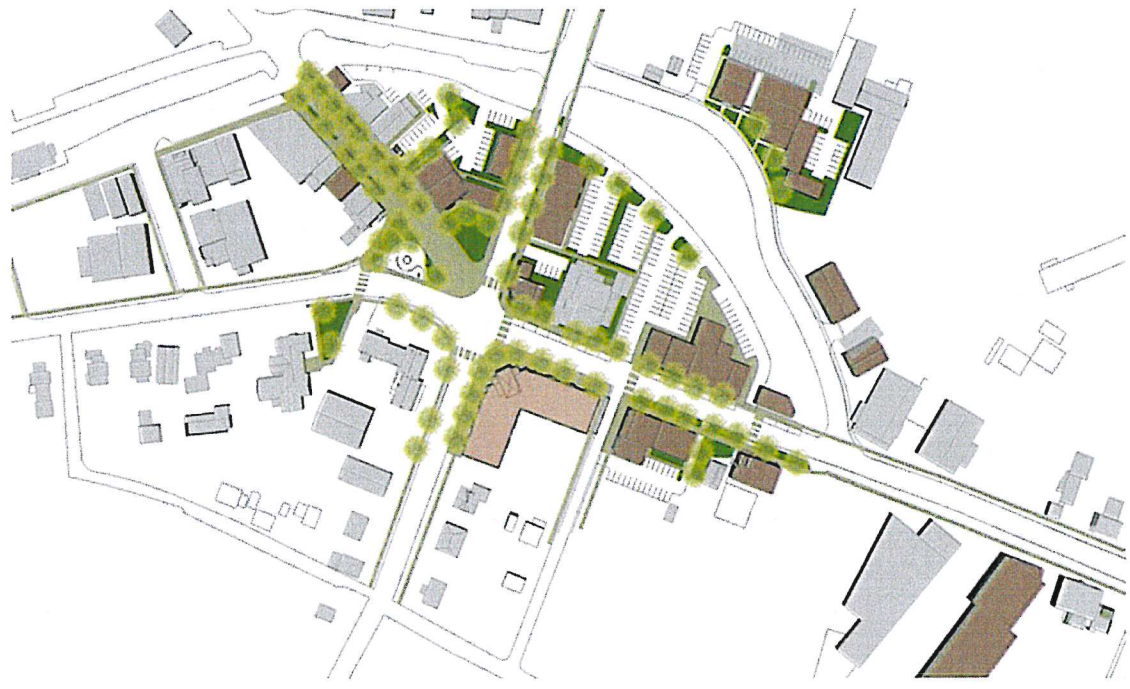
- 2010 – Essex Junction Village Connector Road Analysis
- 2011 – Scoping Study



History

- 2010 – Essex Junction Village Connector Road Analysis
- 2011 – Scoping Study
- 2014 – Environmental Assessment
- 2021 Federal Infrastructure bill pushed funding over finish line

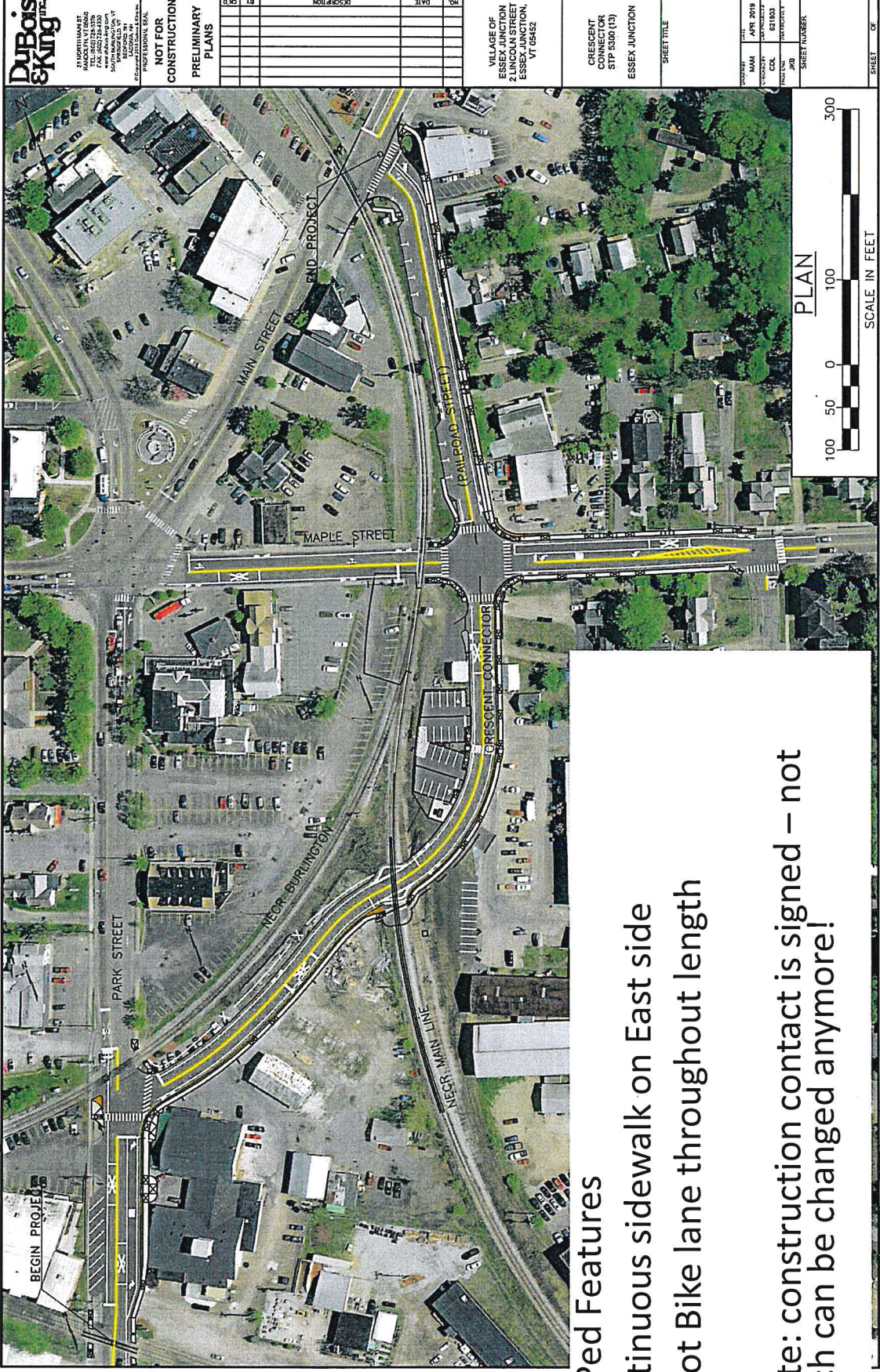




- Main St pedestrianization envisioned at the same time

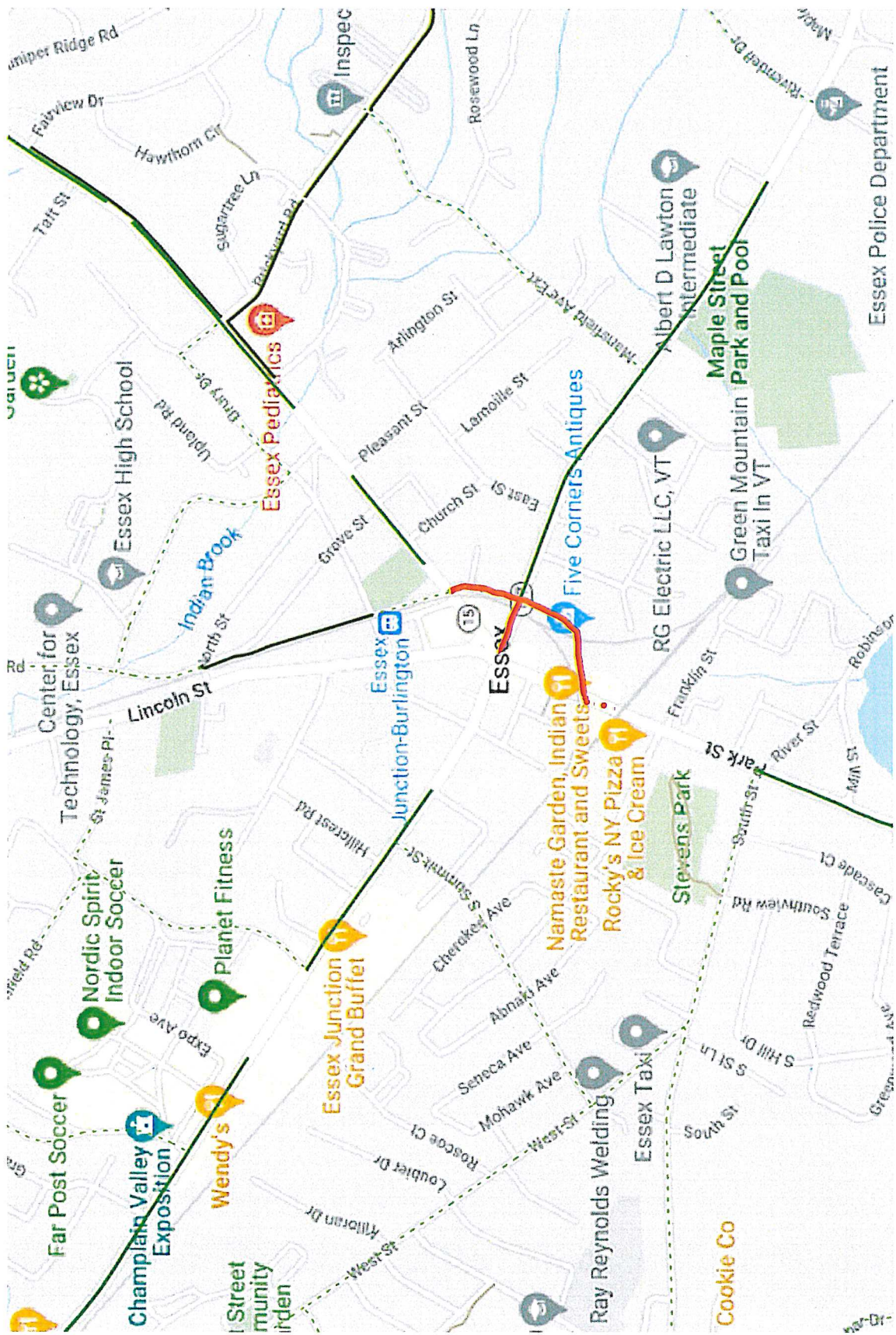
- Chittenden Crossing master plan

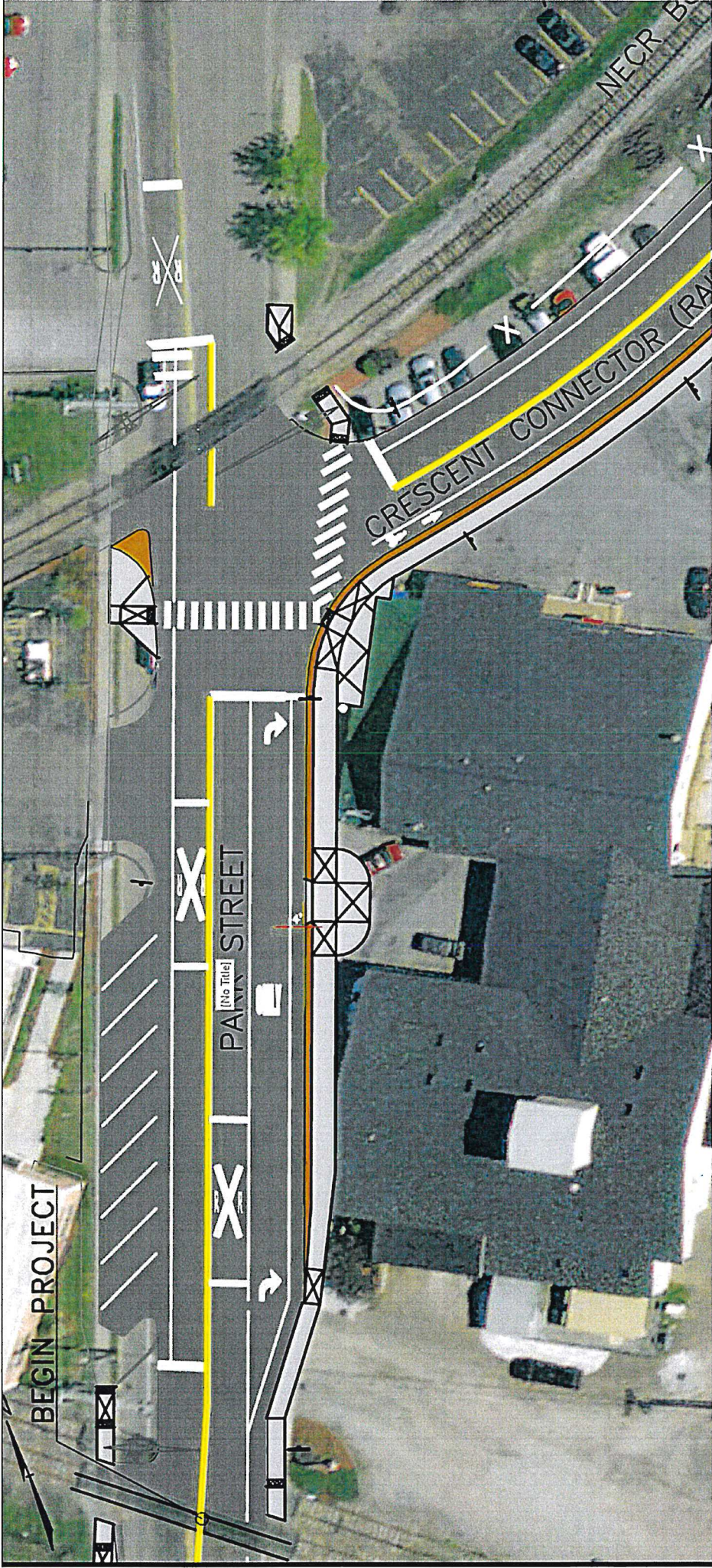


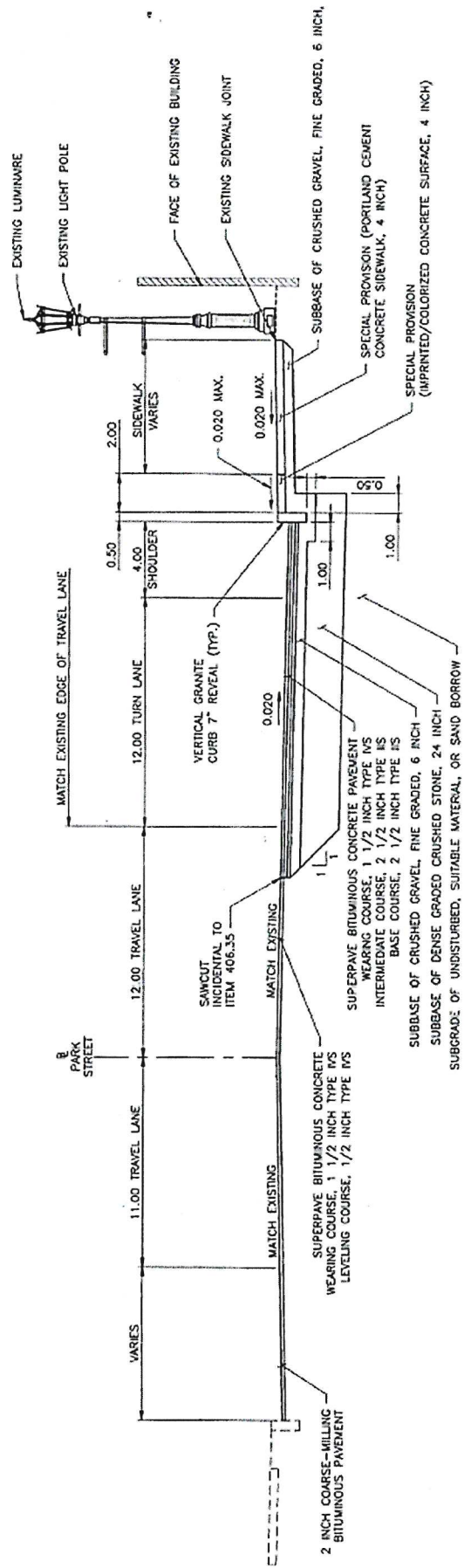


Bike/Ped Features

- Continuous sidewalk on East side
- 4-foot Bike lane throughout length
- *note: construction contact is signed – not much can be changed anymore!

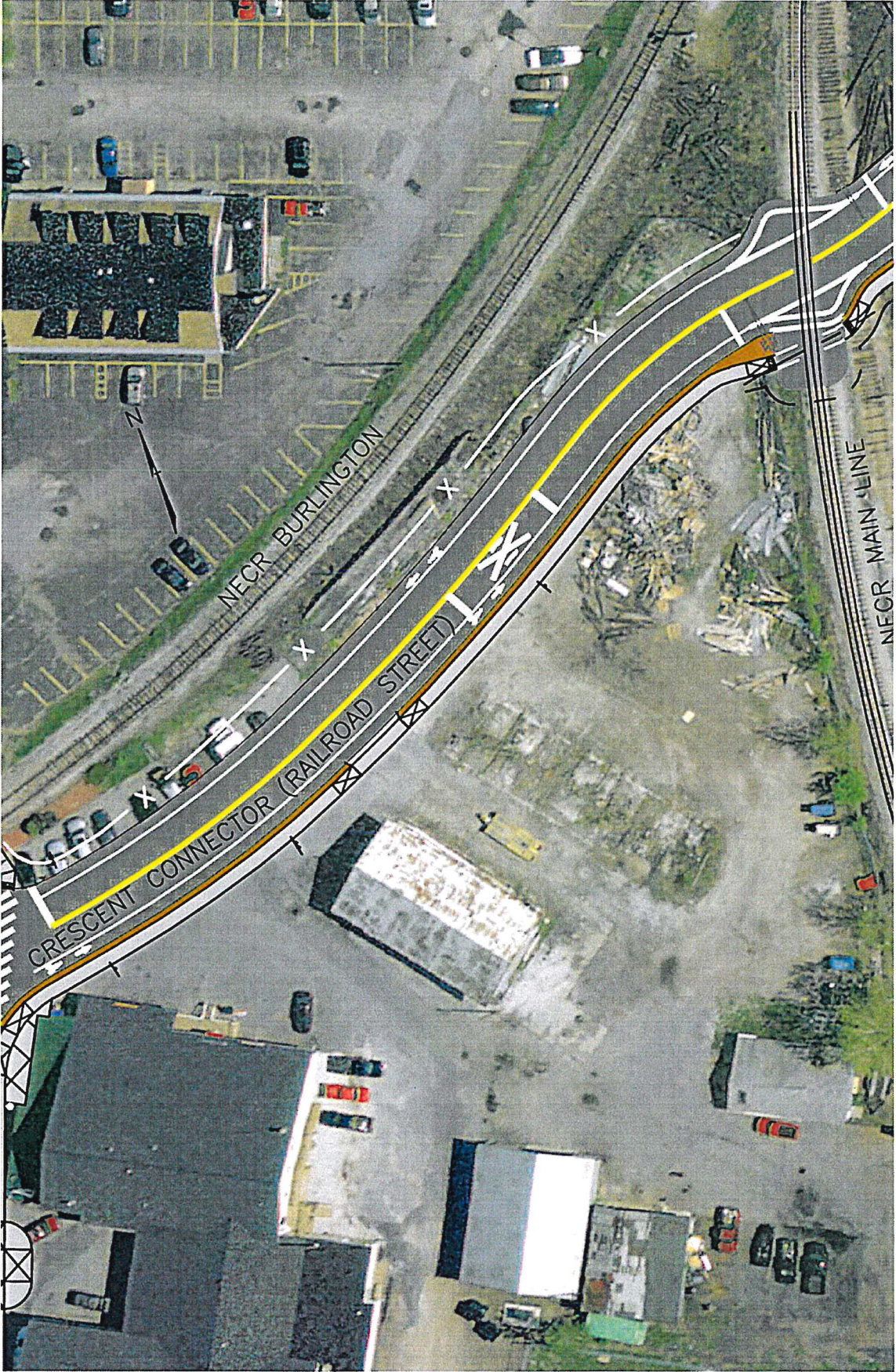






PARK STREET
PARTIAL WIDTH RECONSTRUCTION
 FROM STATION 30+38 TO STATION 32+50

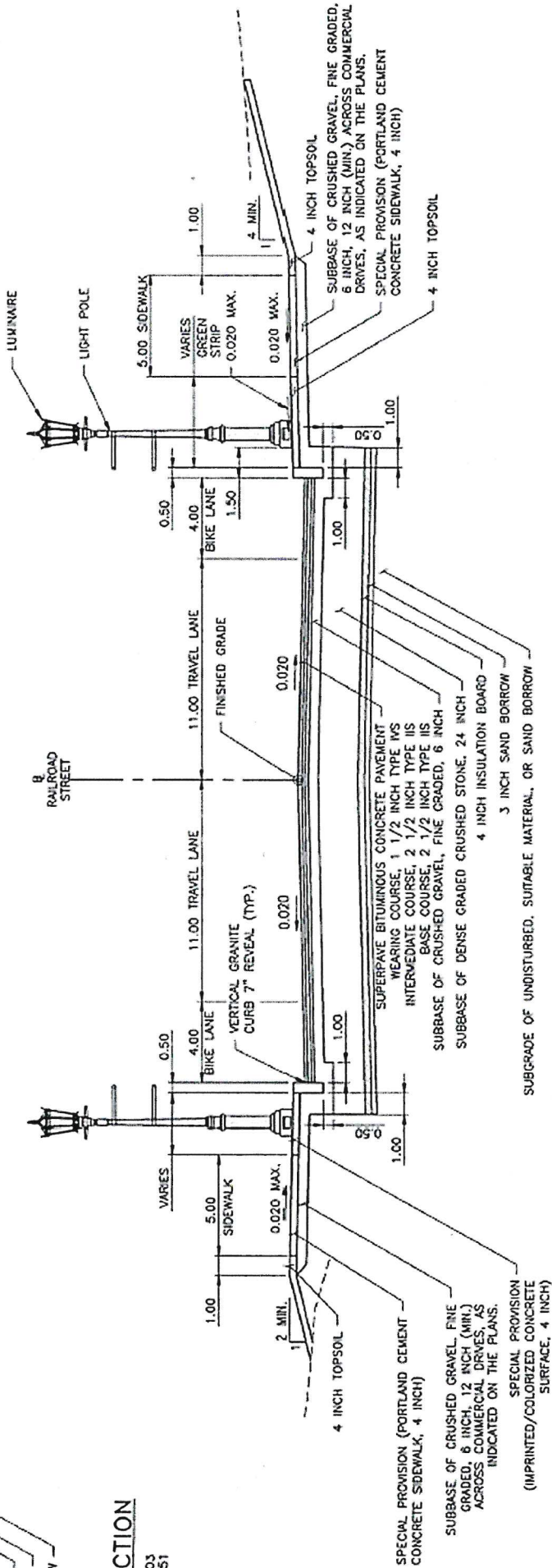
B
 PARK STREET





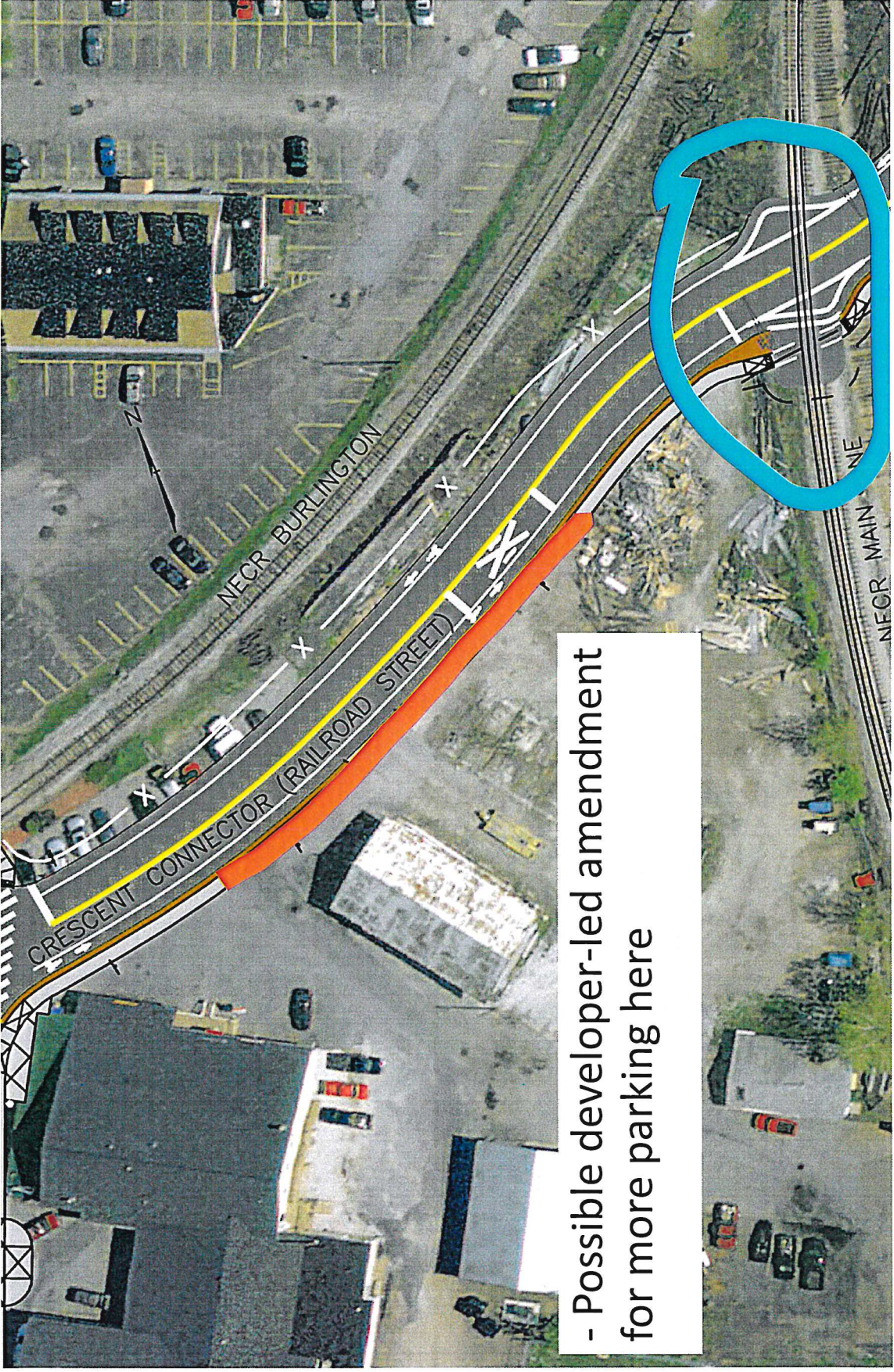
EET
STRUCTION

ON 19+03
ION 19+51

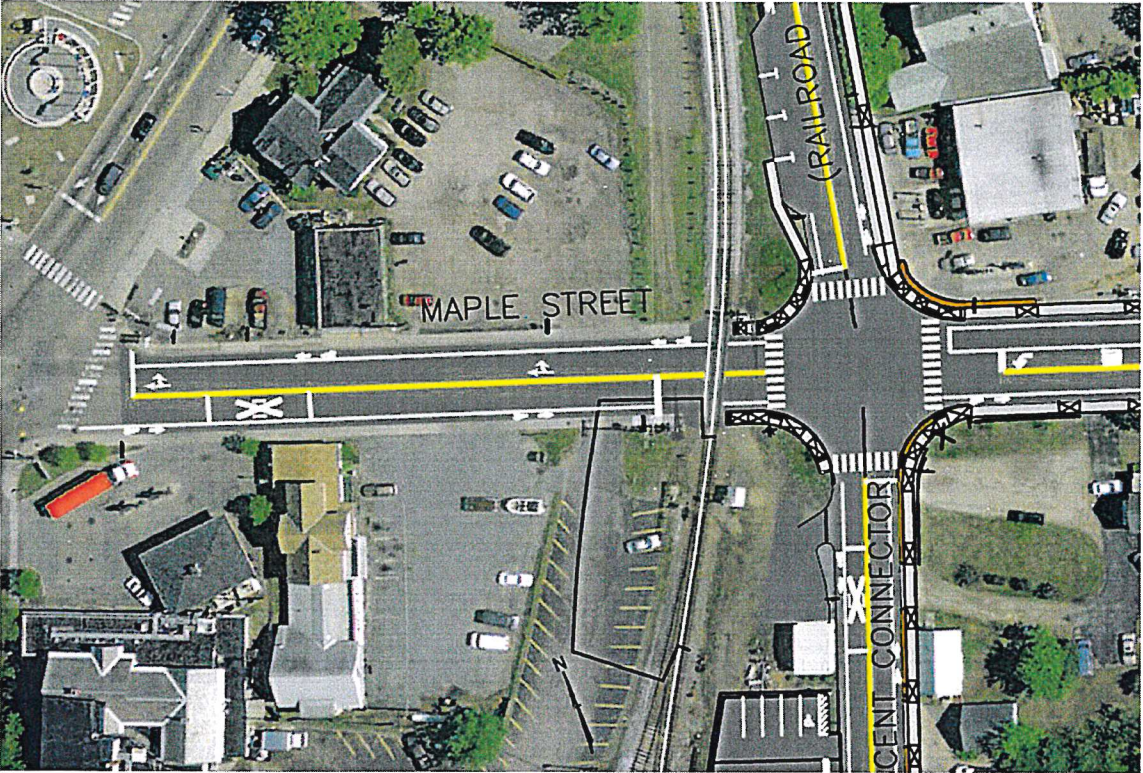
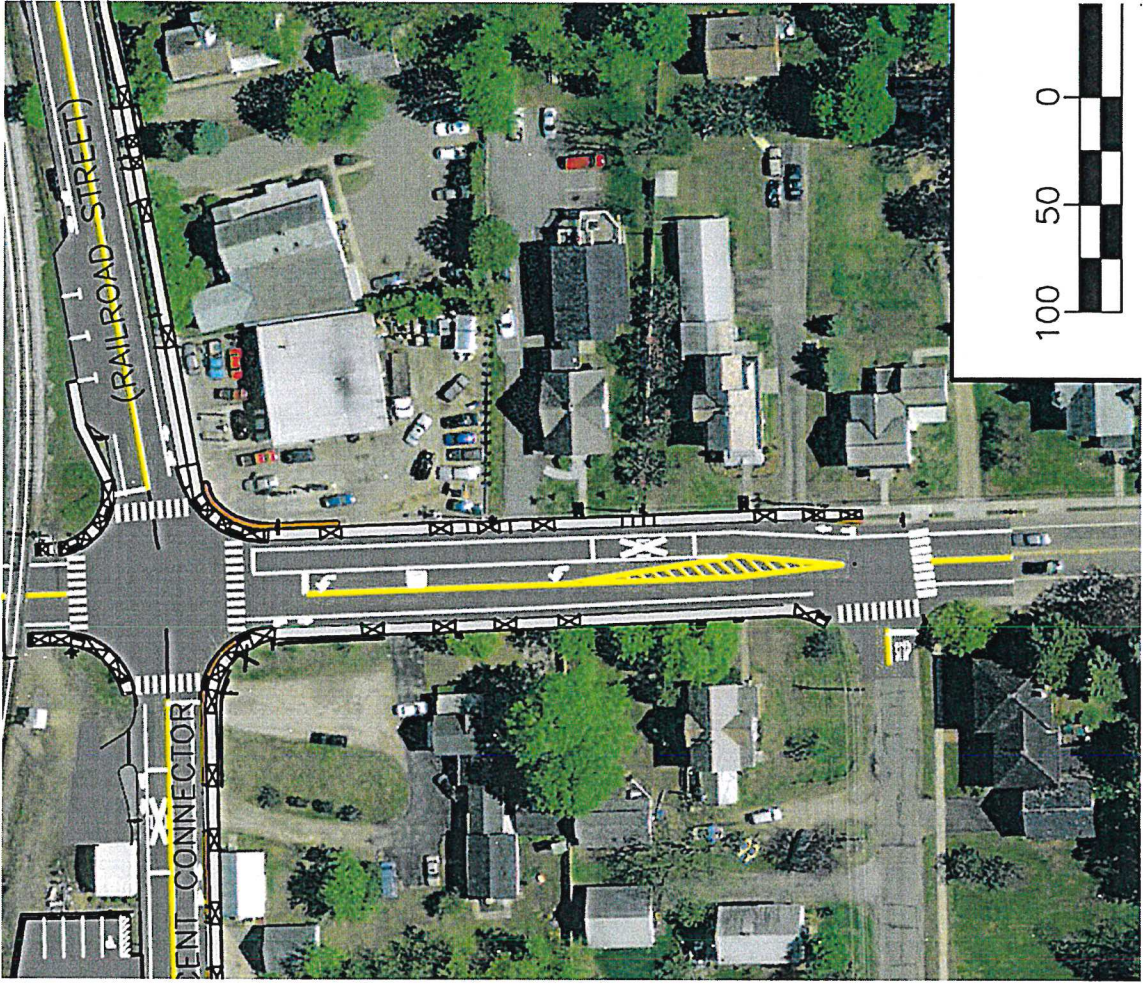


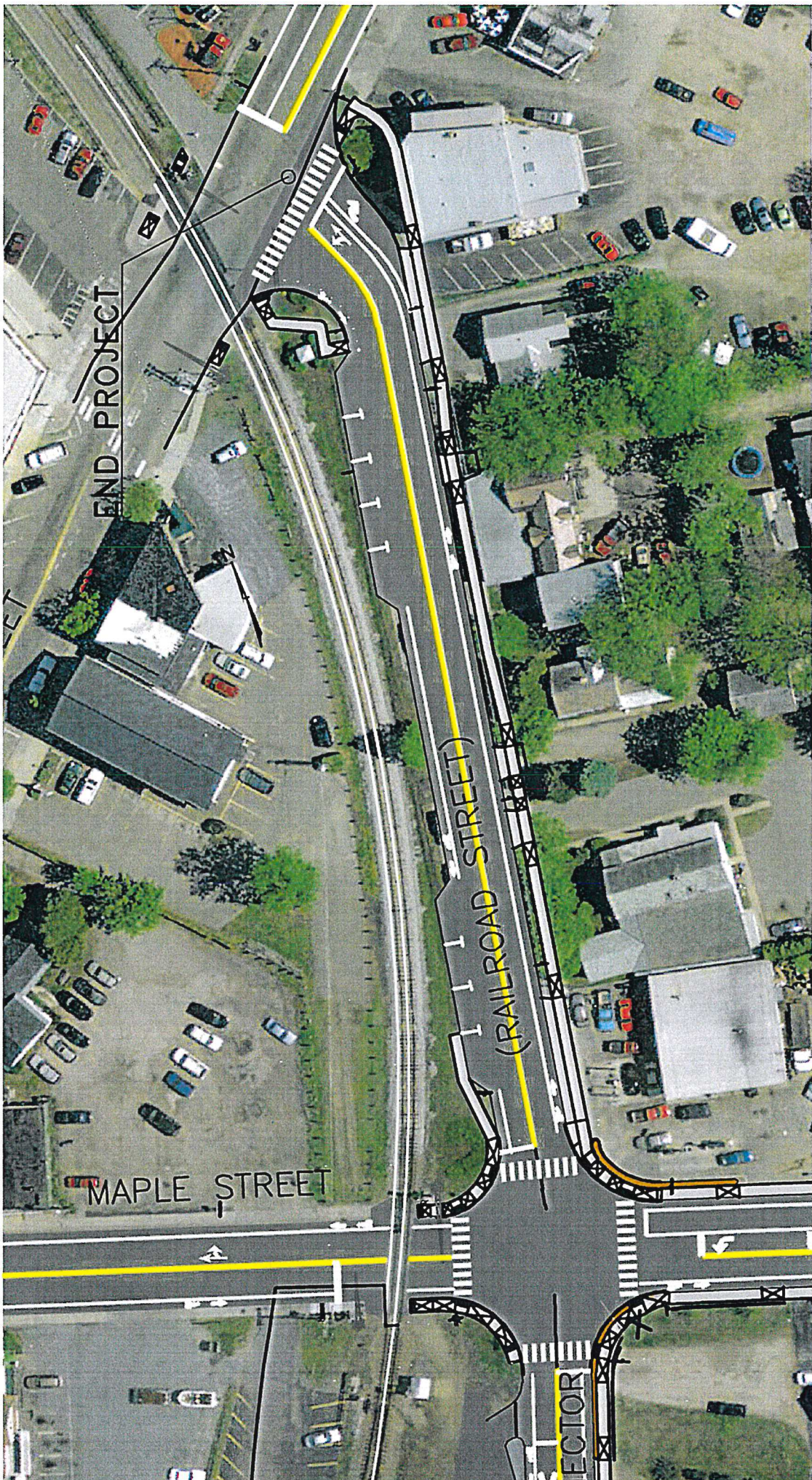
RAILROAD STREET
FULL DEPTH RECONSTRUCTION

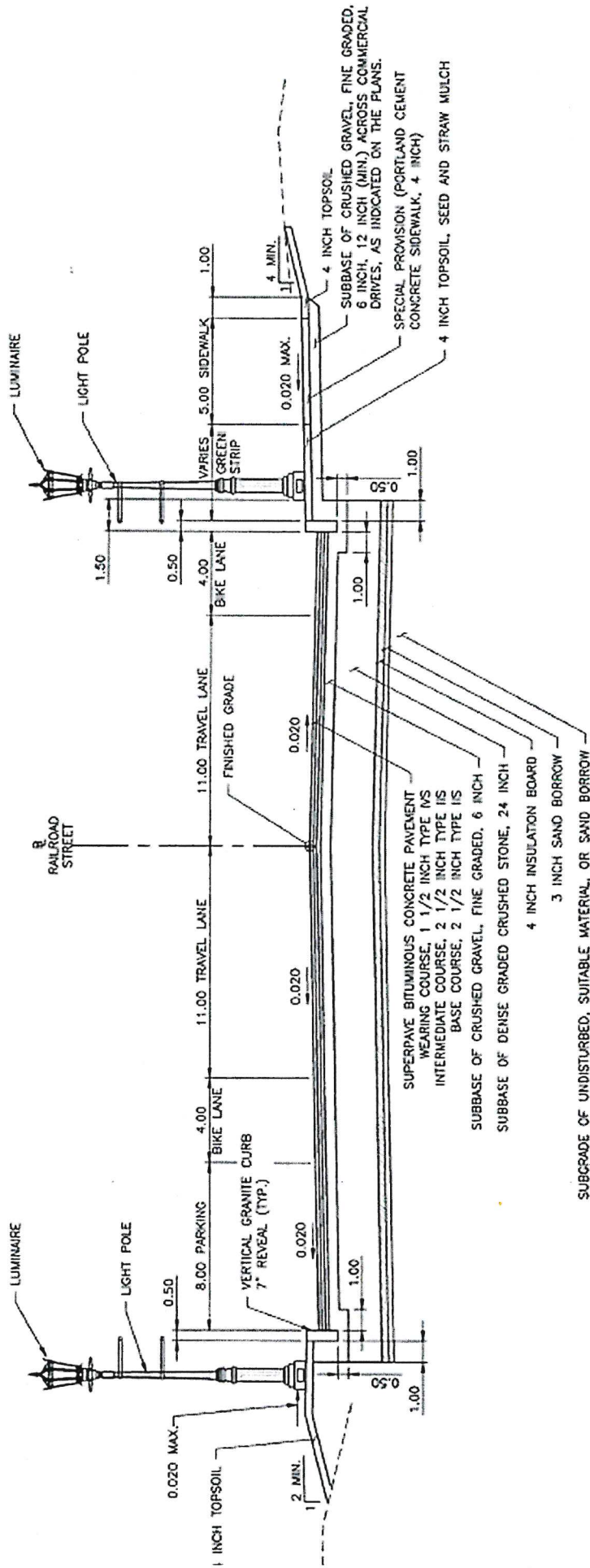
FROM STATION 19+31 TO STATION 19+51



- Possible developer-led amendment for more parking here







**RAILROAD STREET - PARKING LEFT
FULL DEPTH RECONSTRUCTION**

FROM STATION 19+23 TO STATION 20+20
FROM STATION 21+42 TO STATION 22+58

Potential issues

- Narrow Lanes
- Door zone conflicts
- Intersection treatments
- Anything else?

Narrow lanes

- 4' is absolute minimum.
- NACTO guidance:

The desirable bike lane width adjacent to a curbface is 6 feet. The desirable rideable surface adjacent to a street edge or longitudinal joint is 4 feet, with a minimum width of 3 feet. In cities where illegal parking in bike lanes is an concern, 5 foot wide bike lanes may be preferred.

[Read More+](#)



"The recommended width of a bike lane is 1.5m(5 feet) from the face of a curb or guardrail to the bike lane stripe."

"If the [longitudinal] joint is not smooth, 1.2m(4 feet) of rideable surface should be provided."

AASHTO. (1999). Guide for the Development of Bicycle Facilities.

Design Guidance

Conventional Bike Lanes

Required Features

1 The desirable bike lane width adjacent to a curb/edge surface is 6 feet. The desirable rideable surface adjacent to a street edge or curb should be 4 feet. With a minimum width of 3 feet, in cities where riding in the lanes is desirable, 5-foot wide bike lanes may be preferred.

2 When placed adjacent to a parking lane, the desirable reach from the curb face to the edge of the bike lane (including the parking lane, bike lane, and optional buffer between them) is 14.5 feet; the absolute minimum reach is 12 feet. A bike lane next to a parking lane shall be at least 5 feet wide, unless there is a marked buffer between them. Wherever possible, minimize parking lane width in favor of increased bike lane width.

3 The desirable bike lane width adjacent to a sidewalk or other physical barrier is 2 feet wider than the width in order to provide a minimum 4-foot distance from the barrier.

4 Bicycle lane ward and/or symbol and arrow markings (MUTCD 9C-3) shall be used to define the bike lane and designate that portion of the street for preferential use by bicyclists.

5 Bike lane word, symbol, and/or arrow markings (MUTCD 9C-3) shall be placed outside of the motor vehicle travel path at intersections, driveways, and merging areas in order to minimize wear from the motor vehicle path.

6 A solid white lane line marking shall be used to separate motor vehicle travel lanes from the bike lane. Most jurisdictions use a 6 to 8 inch line.

7 A through bike lane shall not be positioned to the right of a right turn only lane or to the left of a left turn only lane (MUTCD 9C-04). A bike lane may be positioned to the right of a right turn only lane if the right turn only lane is a grade-separated turn. For additional bicycle signal heads, for additional storage for mopeds, bicycles, and right turn lanes, see through bike lanes in this guide.

Recommended Features

8 Bike lanes should be made wider than minimum widths wherever possible to provide space for bicyclists to ride side-by-side and in comfort. If sufficient space exists to exceed desirable widths, see buffered bike lanes. Very wide bike lanes may encourage illegal parking of motor vehicle use of the bike lane.

9 When placed adjacent to a parking, a solid white line marking should be used between the parking lane and the bike lane to minimize encroachment of parked cars into the bike lane.

10 Curb, easement, drainage, utility, and utility covers should be flush with the ground and oriented to prevent conflicts with bicycle tires.

11 If sufficient space exists, separation should be provided between bike lane striping and parking boundary markings to reduce door zone conflicts. Providing a wide parking lane may offer similar benefits. Refer to buffered bike lanes for additional strategies.

12 If sufficient space exists and increased separation from motor vehicle travel is desired, a travel-side buffer should be used. Refer to buffered bike lanes for additional details.

13 Lane striping should be dashed through high traffic merging areas. See through bike lanes for more information.

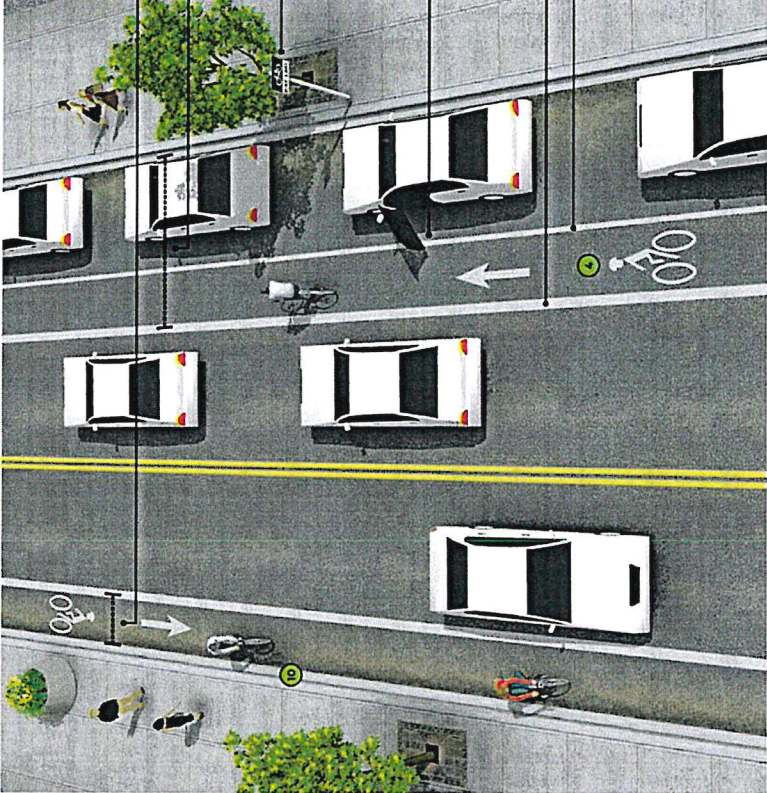
14 The desirable dimensions should be used unless other street elements (e.g., travel lanes, medians, median offsets) have been reduced to the minimum dimensions.

15 In cities where local vehicle codes require motor vehicles to merge into the bike lane in advance of a turn movement, lane striping should be dashed from 50 to 200 feet in advance of intersections to the intersection. Different states have varying requirements.

Optional Features

16 "Bike lane" signs (MUTCD R3-7) may be located prior to the beginning of a marked bike lane to designate that portion of the street for preferential use by bicyclists. The 2009 MUTCD lists bike lane signs as optional; however, some states still require their use.

17 On bike lanes adjacent to a curb, "No Parking" signs (MUTCD R8-3) may be used to discourage parking within the bike lane.



1 Desired width: 6 feet

2 Wherever possible, minimize parking lane width in favor of increased bike lane width.



3 Separation between bike lane striping and parking boundary reduces risk of door zone conflict.

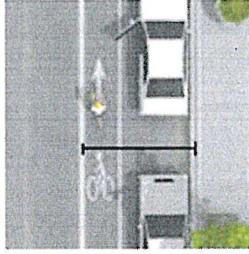
4 6- to 8-inch solid white line

5 4-inch solid white line

Door-Zone Conflicts

When placed adjacent to a parking lane, the desirable reach from the curb face to the edge of the bike lane (including the parking lane, bike lane, and optional buffer between them) is 14.5 feet; the absolute minimum reach is 12 feet. A bike lane next to a parking lane shall be at least 5 feet wide, unless there is a marked buffer between them. Wherever possible, minimize parking lane width in favor of increased bike lane width.

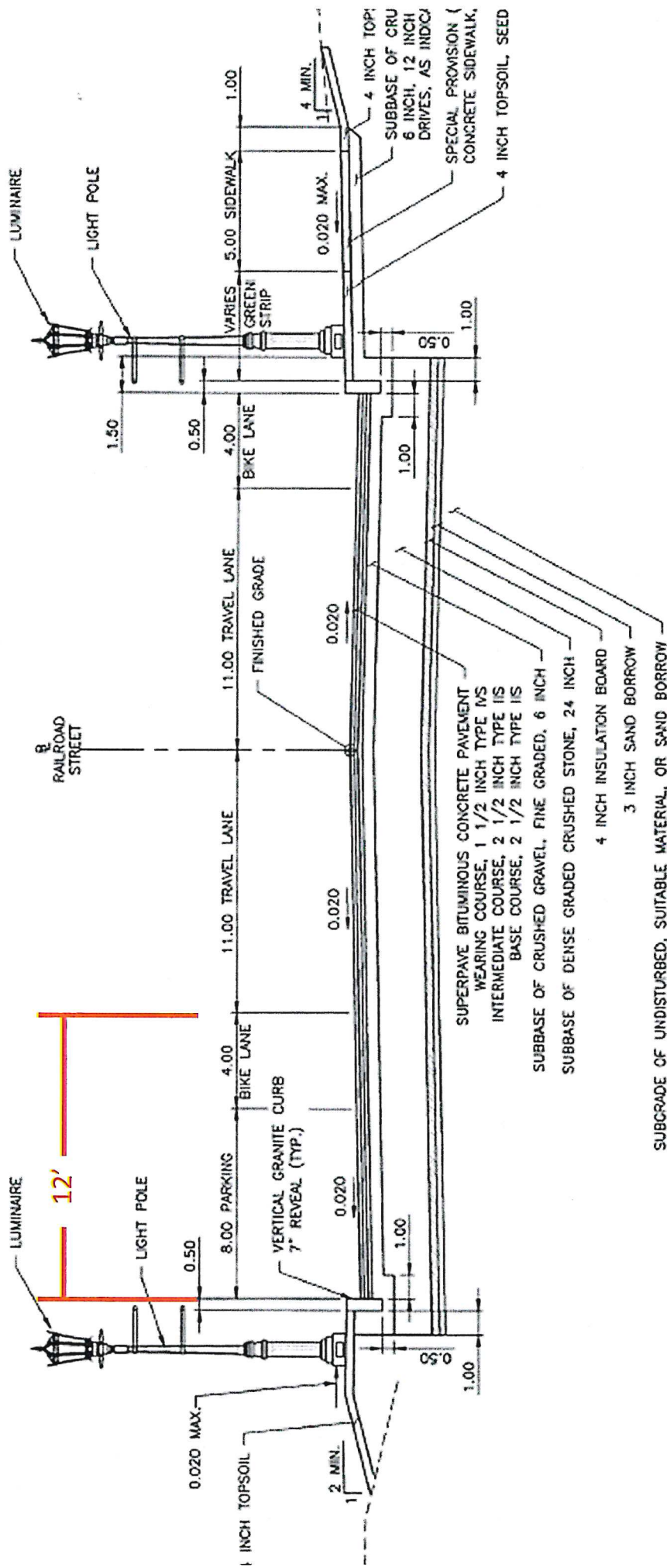
[Read More+](#)



“If parking is permitted, ... the bike lane should be placed between the parking area and the travel lane and have a minimum width of 1.5 m (5 feet).”

“Where parking is permitted but a parking stripe or stalls are not utilized, the shared area should be a minimum 3.6 m (12 feet) adjacent to a curb face ... If the parking volume is substantial or turnover is high, an additional 0.3 to 0.6 m (1 to 2 feet) of width is desirable.”

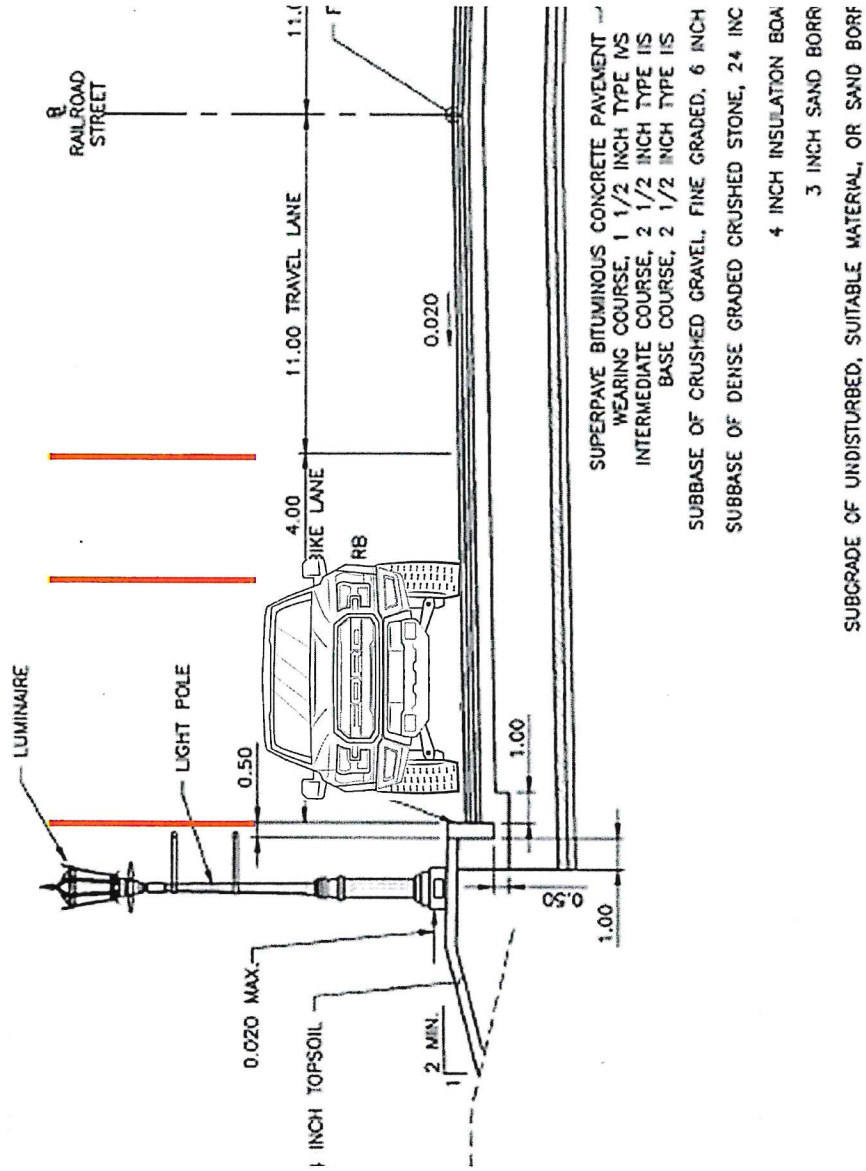
AASHTO. (1999). Guide for the Development of Bicycle Facilities.



RAILROAD STREET - PARKING LEFT FULL DEPTH RECONSTRUCTION

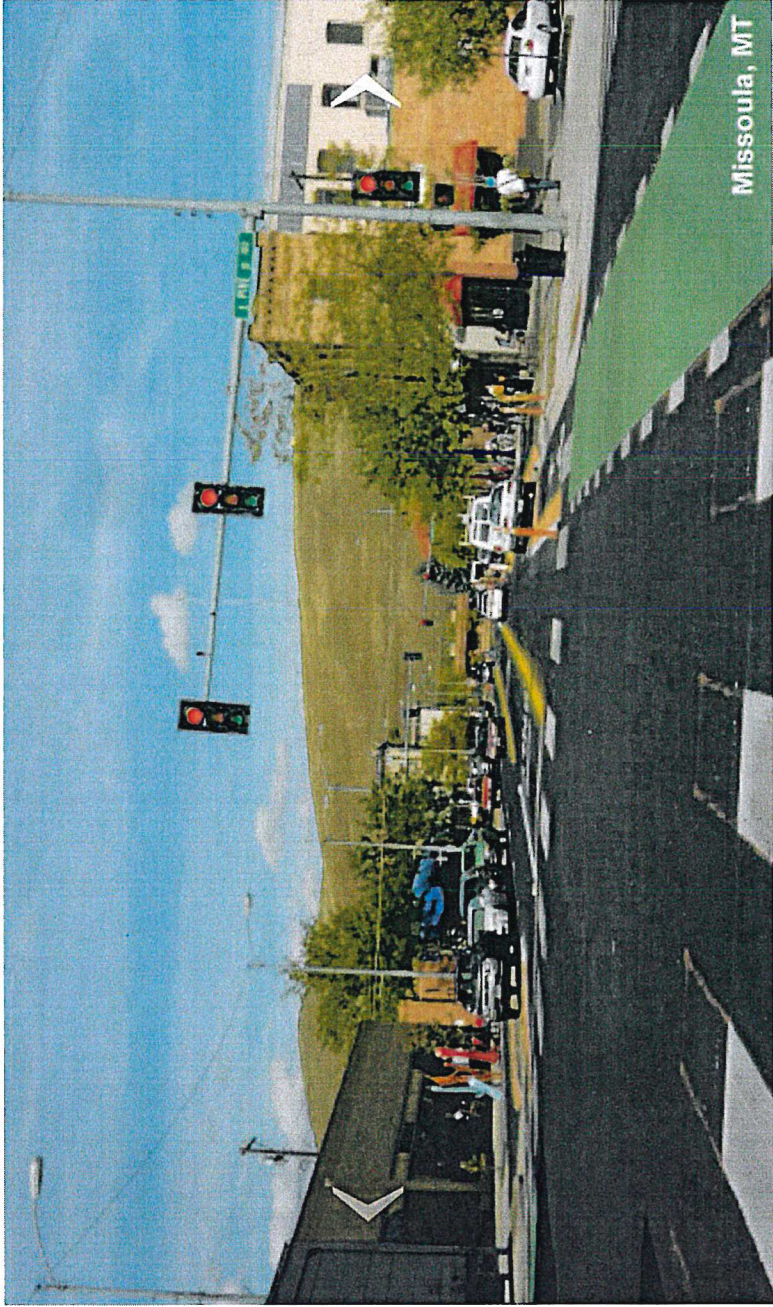
FROM STATION 19+23 TO STATION 20+20
 FROM STATION 21+42 TO STATION 22+58

- Example: F-150 raptor is 8' wide incl mirrors
- Bicycle handlebars are ~2.5'
- VT has no safe-passing law but other states require 3'



RAILROAD STREET - PARI
FULL DEPTH RECONSTR
 FROM STATION 19+23 TO STATION 2
 FROM STATION 21+42 TO STATION 2

Intersection Treatments



Thoughts / Questions?

demand.

(f) Joint parking facilities with abutting businesses are sufficient to meet parking demand.

(g) The latest edition of the ITE Parking Manual, or other professional source, provides data which demonstrates that the parking demand for a proposed use is less than the standards specified in this Code.

L. Bicycle Parking and Storage Standards and Applicability. These standards for short term parking and long term storage of bicycles are intended to recognize and promote cycling as a viable means of transportation and recreation for residents, consumers, visitors, and employees; and to ensure compliance with the Comprehensive Plan which calls for improved access to and safety of bicycle and pedestrian facilities.

1. Short Term Bicycle Parking. These bicycle parking spaces (bps) standards apply to any application for development that requires site plan approval under Section 502.F of the Land Development Code in all Zoning Districts except for Residential 1 and Planned Agriculture.

(a) The minimum number of bicycle parking spaces shall be as indicated on Table 703.L.1.

(b) Bicycle parking shall utilize the 'Inverted U' style or as shown as acceptable in the Association of Pedestrian and Bicycle Professionals Essential of Bike Parking, 2015 or as most recently updated. The rack may not be constructed of wood.

(c) If an applicant wishes to install something different, any bps shall meet the following specifications:

(i) Allow secure locking of the frame and wheel;

(ii) Support a bicycle frame at two points of contact;

(iii) Meet the intent of the examples provided in the Association of Pedestrian and Bicycle Professionals Essential of Bike Parking, 2015 or as most recently updated.

(d) Location & Serviceability. Each bps shall be:

(i) Securely anchored to the ground and on a hard, stabilized surface of at least six feet in length and a width sufficient to satisfy the remainder of these regulations;

(ii) Spaced to allow easy access to each bicycle

(iii) Spaced sufficiently away from obstructions, including walls, doors, posts, columns, landscaping, and other racks, in accordance with the Association of Pedestrian and Bicycle Professionals Essential of Bike Parking, 2015 or as most recently updated.

(iv) Easily accessible from the street or multi-use path and protected from motor vehicles;

(v) Visible to passers-by and well-lit to promote usage and enhance security; especially in retrofitted areas, or where good visibility is not achievable, an applicant may be required to install directional signage.

(vi) Located at or nearby principal entrances where reasonably practicable, unless doing so compromises the other directives of this subsection, including visibility and accessibility.

(e) Bicycle parking serving buildings with multiple entrances shall be dispersed so that

all principal entrances are served.

(f) For office building use, up to 50% of short term bicycle parking requirements may be met by supplementing the (indoor) long term bicycle parking requirements with the required short term bicycle parking spaces.

2. Long Term Bicycle Storage Applicability. These standards apply to construction of new mixed use or commercial buildings and any new residential building with more than 3 dwelling units; building additions or reconstruction of a minimum of 5,000 gross square feet in area for mixed use or commercial buildings and any residential building with five or more residential units and a minimum of 5,000 gross square feet in area.

(a) Standards for Residential Buildings

(i) Secure Storage in bicycle locker, bicycle storage room or private enclosure outside of the private residence that protects entire bicycle, including components and accessories against theft and weather.

(ii) Garages which are private to each unit may count towards parking requirements.

(b) Standards for Non-Residential Buildings

(i) Secure storage in bicycle locker, bicycle storage room or enclosure that protects entire bicycle, including components and accessories against theft and weather, allows secure locking of the frame and wheel and supports a bicycle upright.

(ii) Where indicated in Table 703.L.2, clothes lockers shall be lockable with the following minimum dimensions: 12” wide, 18” deep, 36” high. Lockers do not need to be in same place as bicycle storage;

(iii) Secure office space (private offices) may account for up to 50% of the required indoor parking areas and lockers provided they are located on the ground floor of the building, accessible and of sufficient size;

(iv) Shower and changing facilities dependent on the number of bicycles required to be stored and as indicated on Table 703.L.1.

Table 703.L.1. Bicycle Parking Requirements

Type of Activity	Short Term Bike Parking	Long Term Bike Storage
<u>Residential buildings with more than 3 units</u>	<u>1 for every 10 units; minimum 4₁</u>	<u>1 for every unit</u>
<u>Warehousing, contractor, and light industry</u>	<u>1 per 20k SF; minimum 2</u>	<u>2 per tenant</u>
<u>Retail, restaurant, office, and all other</u>	<u>1 per 5k SF; minimum 4</u>	<u>50% of required short term bike parking spaces.</u>
<u>Educational</u>	<u>1 space for each 20 students of planned capacity.</u>	<u>For new buildings only, one space for each 20 employees.</u>

₁ May request waiver from minimum per building for buildings with less than 6 units if Development Review Board finds the need is adequately met for visitors.

Table 703.L.2. Long Term parking – shower and changing room facility requirements

Number of protected long	Changing facility	Unisex	Clothes Lockers
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<u>term bicycle parking spaces</u>		<u>Showers</u>	
<u>1-3</u>	<u>none</u>	<u>none</u>	<u>1</u>
<u>4 - 9</u>	<u>1₂</u>	<u>1₂</u>	<u>3</u>
<u>For every 10</u>	<u>1₂</u>	<u>1₂</u>	<u>40% of LTB parking</u>

2 if unisex, units available to any gender; otherwise provide one per gender

SECTION 704: LIGHTING

A. Purpose. To provide appropriate outdoor lighting adjacent to buildings, streets, sidewalks, and within parking areas for public safety and to minimize glare on streets and adjoining properties while minimizing energy use through the use of efficient fixtures and minimizing the use of lighting during non-business hours or when activity is not occurring on-site.

B. General Standards. Lighting is allowed in required yards and shall be subject to the following regulations:

1. Lights shall be used for the purpose of illumination, including security lighting, and not for advertising purposes.
2. The operation of searchlights is prohibited except for public safety purposes.
3. All light fixtures shall be hooded or shielded and directed downward at sixty (60) degrees to horizontal, unless otherwise approved, and shall have concealed light sources.
4. Light sources shall not be visible at property lines.
5. Intermittent lighting, except for holiday lighting, may not be used.
6. Lighting devices may not produce direct or reflected glare on adjoining properties or streets.
7. All private residential exterior light sources shall be Dark Sky Compliant.
8. Lighting for emergency purposes or lighting required on any structure for public safety purposes shall be exempt from the provisions of this section as approved by the Planning CommissionDevelopment Review Board.
9. Lighting shall only be used as necessary for the operation of a business or activity. Lights shall be placed on a timer; an operations plan must be approved as part of a development application for the project site. Lighting plans may include the use of some, but not all, of on-site lighting during non-hours of operation.

C. Review of Lighting Plans

The installation of or replacement of any outdoor lighting fixtures of new design shall require a zoning permit with the exception of single and two (2) family dwellings. If the proposed lighting is associated with a project that requires Site Plan Review, the Planning CommissionDevelopment Review Board shall review and approve the lighting plan. If site plan is not required, staff shall review the lighting plan to ensure conformance with Section 704.

Applicants shall submit an exterior lighting plan for the VillageCity's review. The plan shall include the following information:

1. A Site Plan drawn to a maximum scale of one (1) inch to twenty (20) feet, to include building footprint, landscaping, parking areas; and all proposed lighting fixtures, unless another scale is approved by staff;
2. Specifications for all proposed lighting fixtures including a manufacturer's catalog cut and photometric data showing numerical grid of lighting levels, in foot