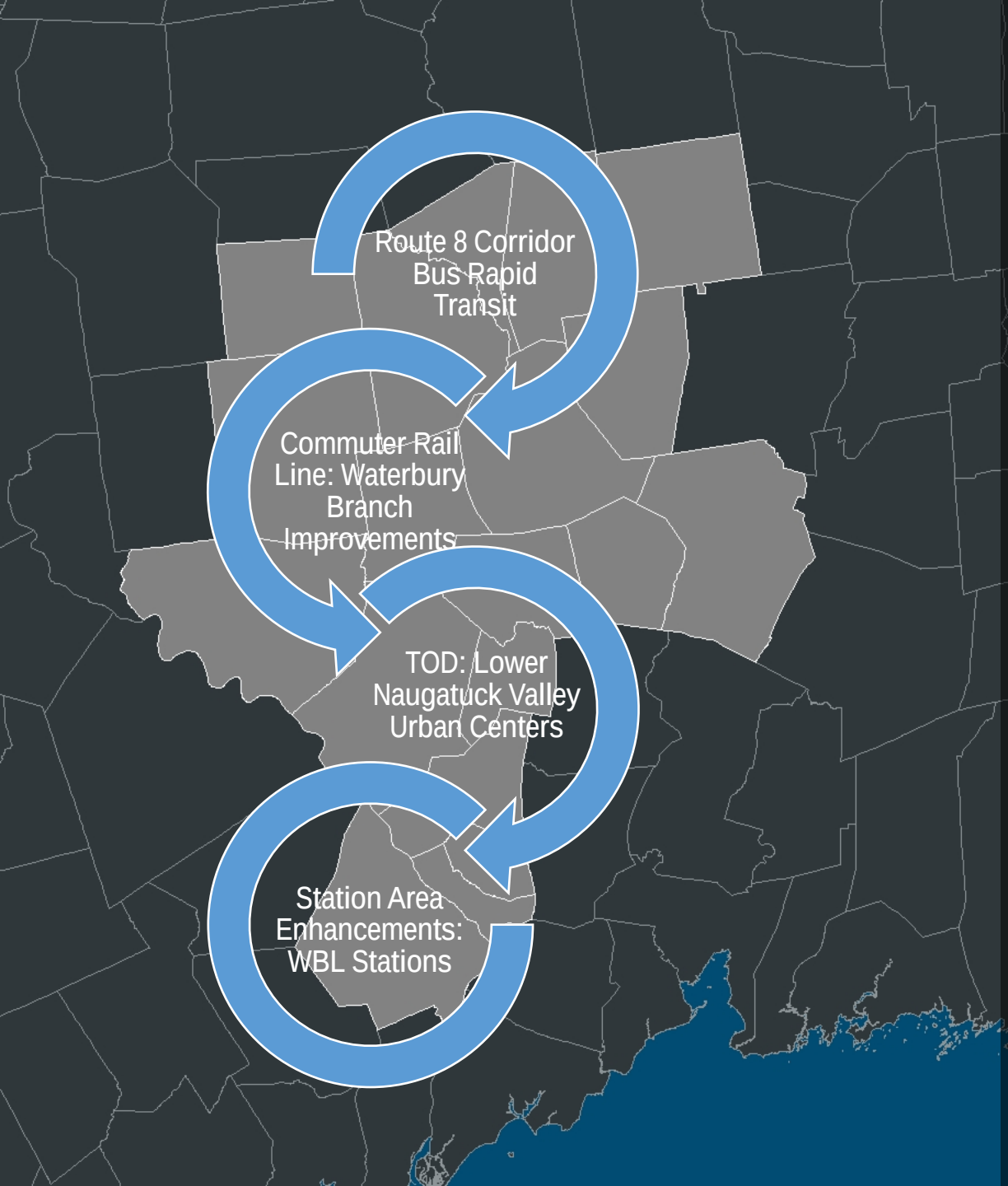



Route 8 & Waterbury Branch Line Corridor Transit-Oriented Development & Alternate Transit Modes Assessment Project

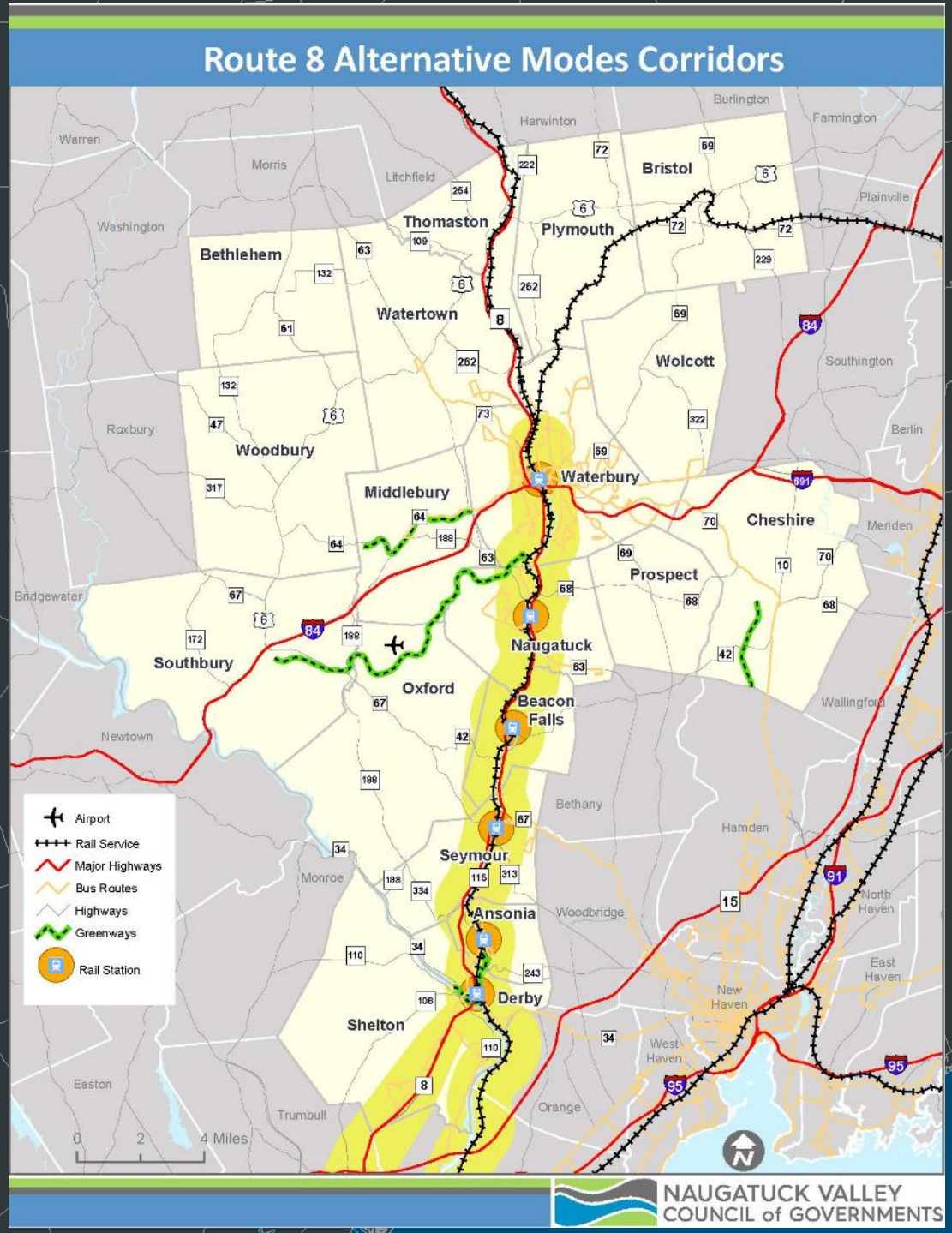
TOD Build-out Tool Webinar – February 10, 2021

Alt Modes Assessment

- Multi-task engineering & planning study
- Route 8/WBL corridors
- Identify new, enhanced public transit services
- Identify future land use scenarios that support transit services
- Enhance transit connectivity
- Incentivize transit oriented & supported developments
- Avoid expensive highway expansion costs

NVCOG



Project Area

- The Naugatuck Valley
  - Between Waterbury and Bridgeport
  - 19 Cities & Towns - 450,000 residents
  - 158,781 jobs/ Work force of 237,050
- Transportation Network
  - Waterbury Branch Rail Line
  - Route 8 Expressway
- Station Areas Studied
  - Derby-Shelton
  - Ansonia
  - Seymour
  - Beacon Falls
  - Naugatuck
- Growing employment centers
  - Especially along the Bridgeport Avenue

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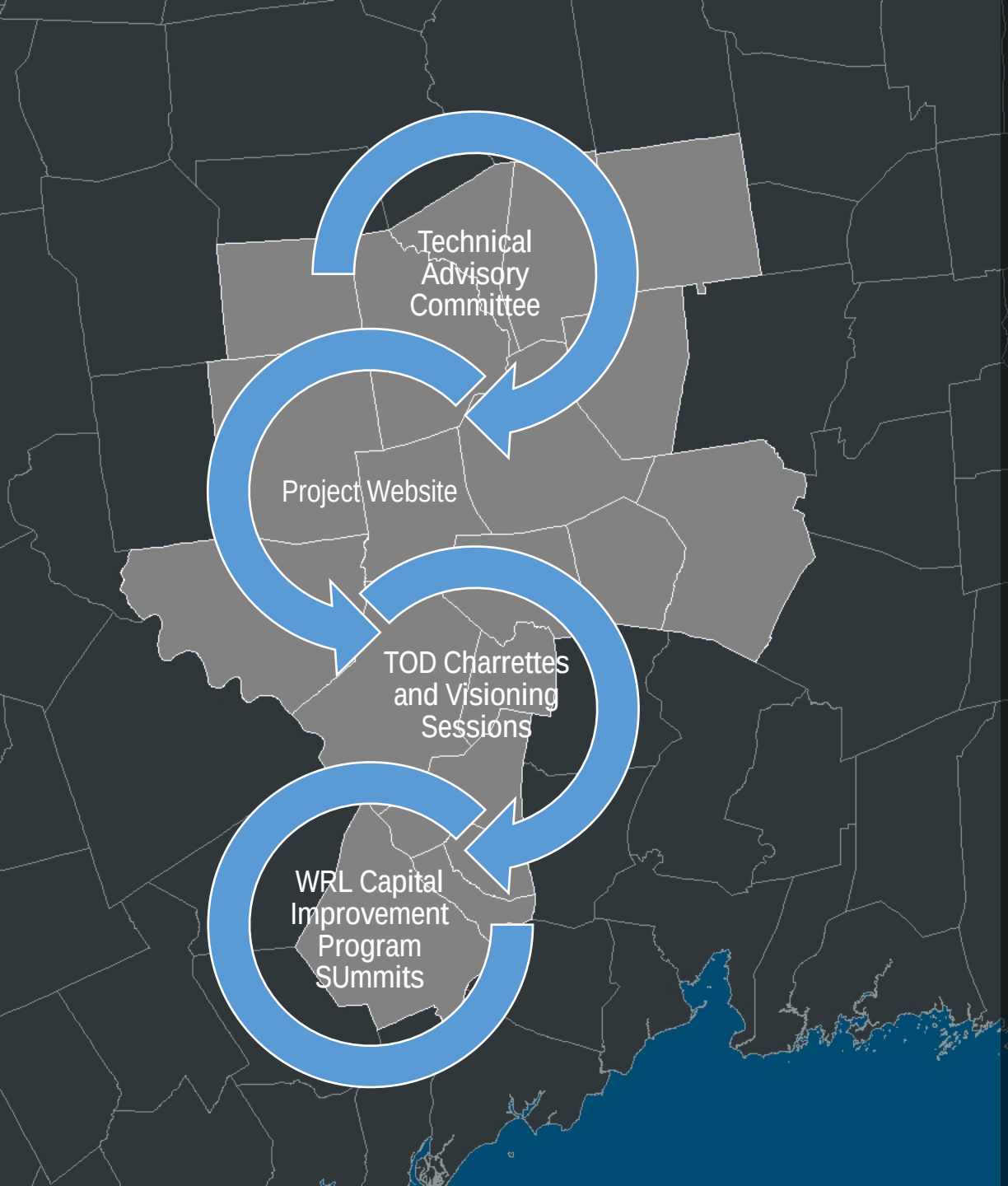

Project Study Team

- NVCOG – Project Management
- AECOM – Prime Consultant
  - CDM Smith – TOD Scenarios, Forecasting
  - Harriman – Urban Design
  - Planning4Places DBE – Planning Support, Build Out Scenarios
  - Zuvic & Carr Associates SBE – Data Collection, Parking Inventory

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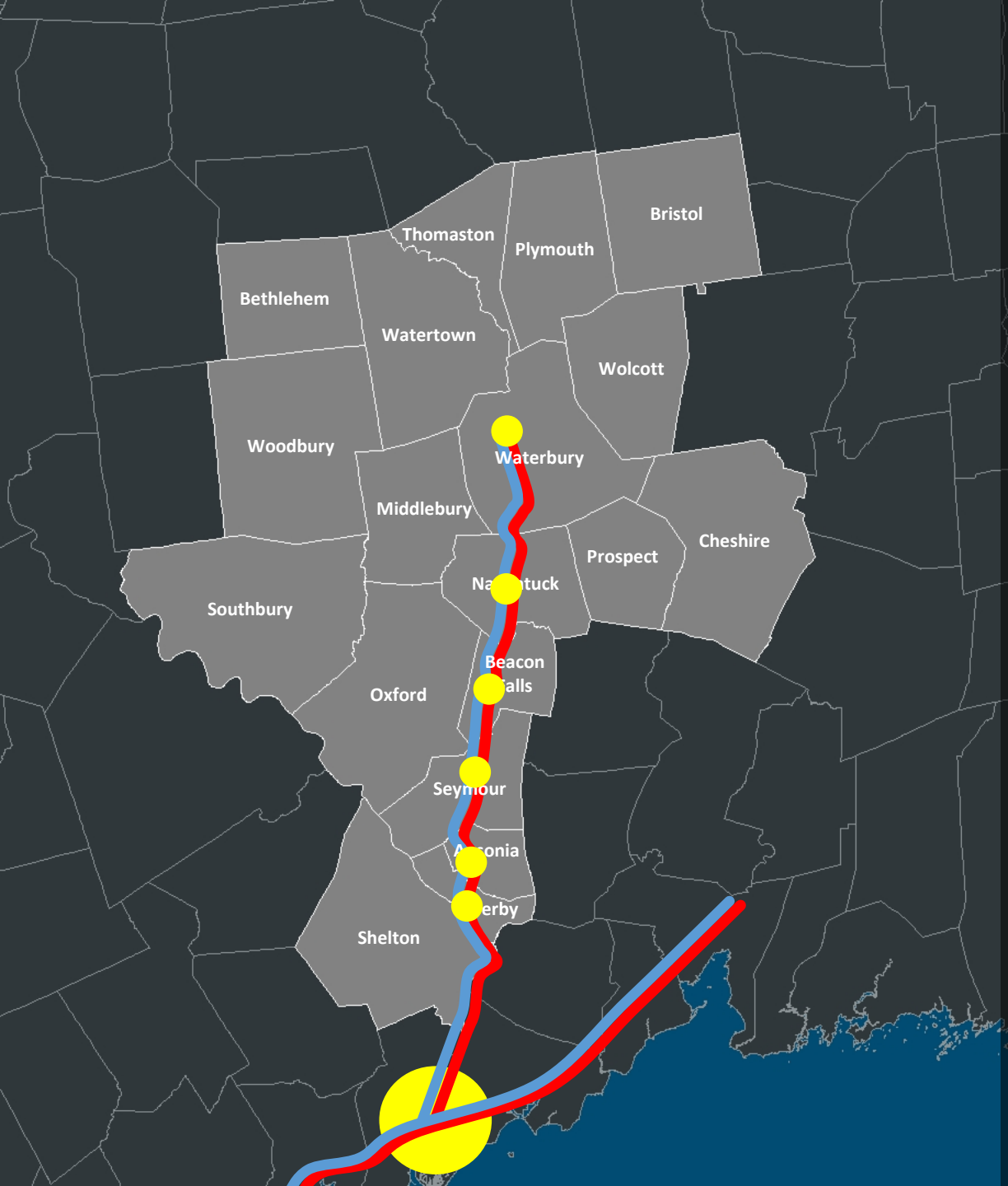


Deliverables Completed to Date

- Project Website: *rt8corridorstudy.com*
- WBL On-Board Passenger Count & Ridership Survey, 12/2017
- Existing Conditions Report, 10/2018
- TOD Scenarios Report, 2/2019
- BRT Assessment Report, 4/2019
- Waterbury Rail Line Recommended Capital Improvement Plan, 1/2020
- Alternatives Report – underway

NVCOG

TOD Economic Opportunities

David V. Sousa, RLA, AICP

Senior Landscape Architect/
Transportation Planner

CDM Smith

NVCOG

TOD Build-Out Tool

Route 8 & Waterbury Branch Line Corridor Transit-Oriented Development & Alternate Transit Modes Assessment Project

Project Website: Rt8CorridorStudy.com

February, 2021

NAUGATUCK VALLEY COUNCIL of GOVERNMENTS

AECOM

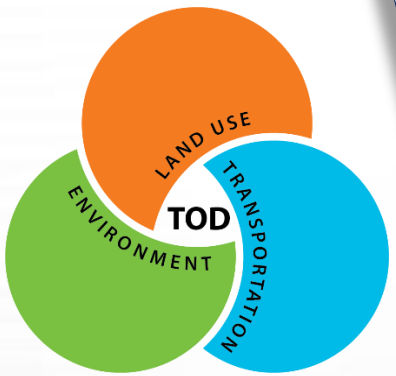
Agenda

- Objective of Workshop
- Review of Potential TOD in Your Community
- Overview of TOD Build-Out Tool
- Step-by-Step Instructions to Update Tool

Objective of Workshop

What Is Transit-Oriented Development (TOD)?

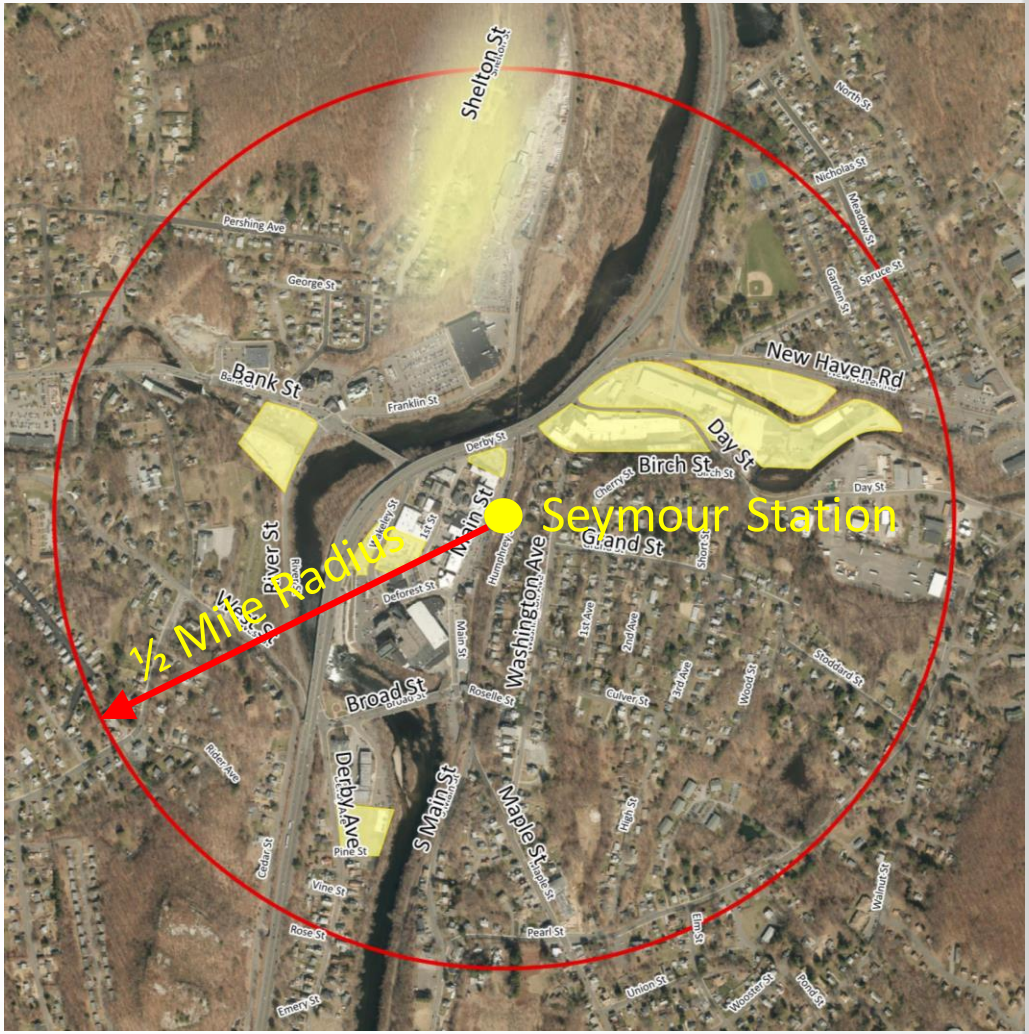
- TOD integrates transportation, land use and the environment
- Transit supports TOD and TOD supports transit
- Benefits to communities:
  - Health and Safety
  - Transportation Choice
  - Environmental Sustainability
  - Community
  - The Economy



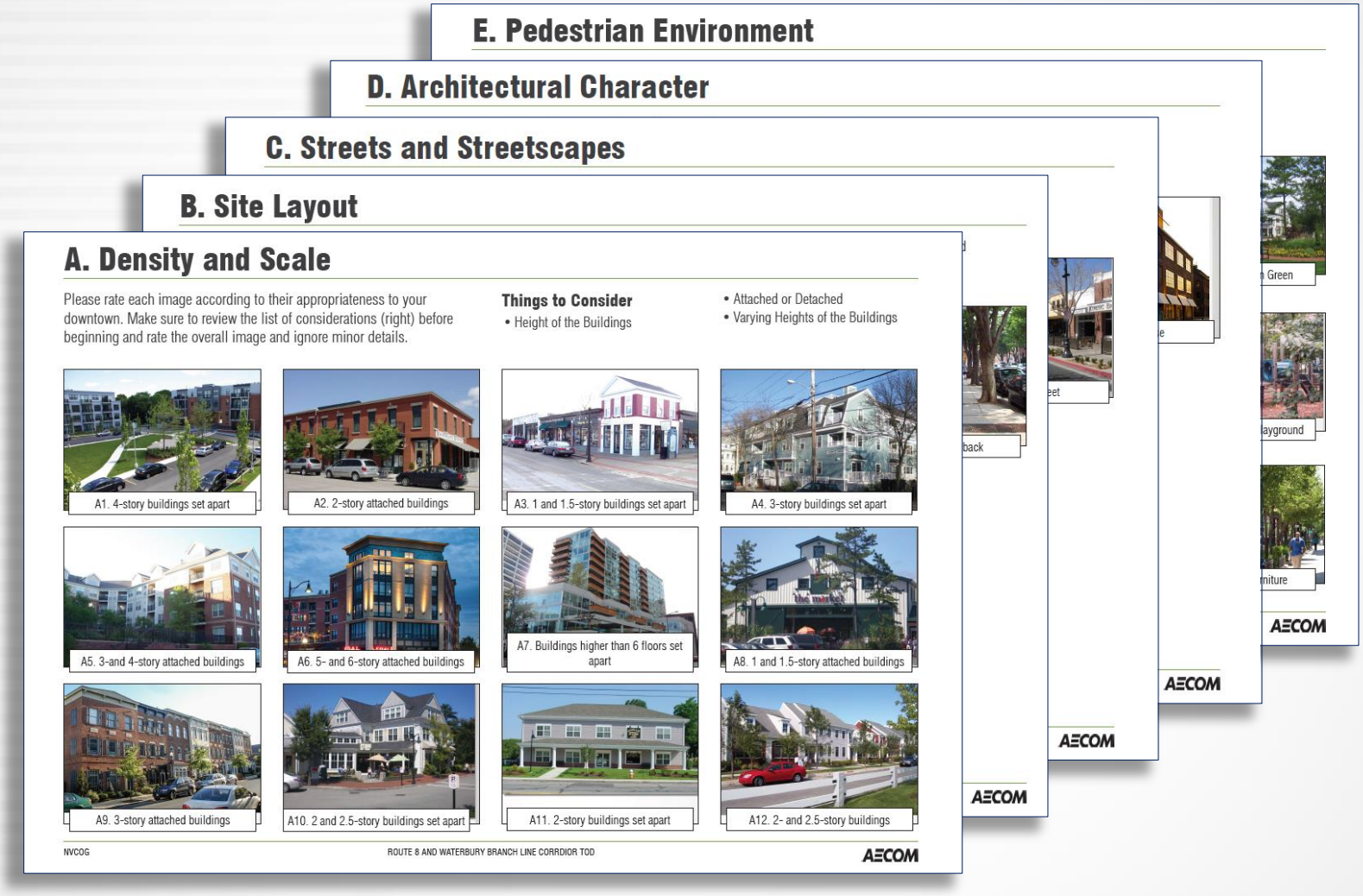
Review of TOD Potential in Your Community

TOD Opportunity Sites in Seymour

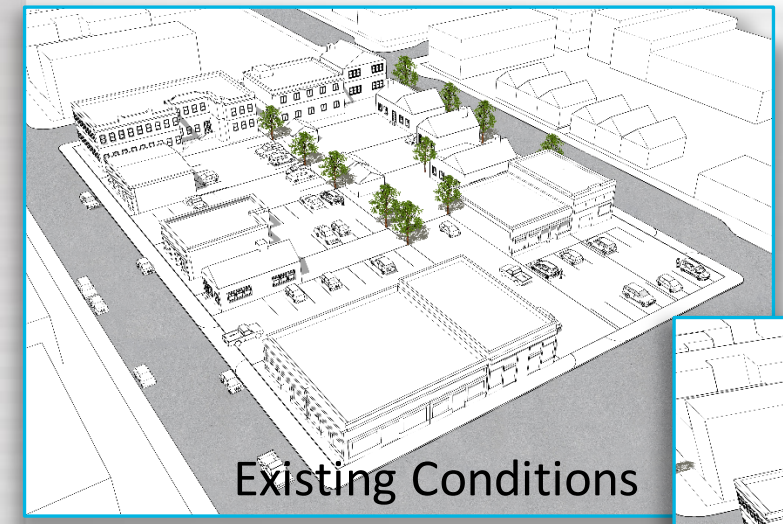
- TOD enables people to live within walking distance of transit.
- Easy & safe walking, bicycle routes are key.
- Convenient transit - passenger shelters, lighting, traveler info (maps, schedules).
- Adequate parking and drop-off areas at station are also important.

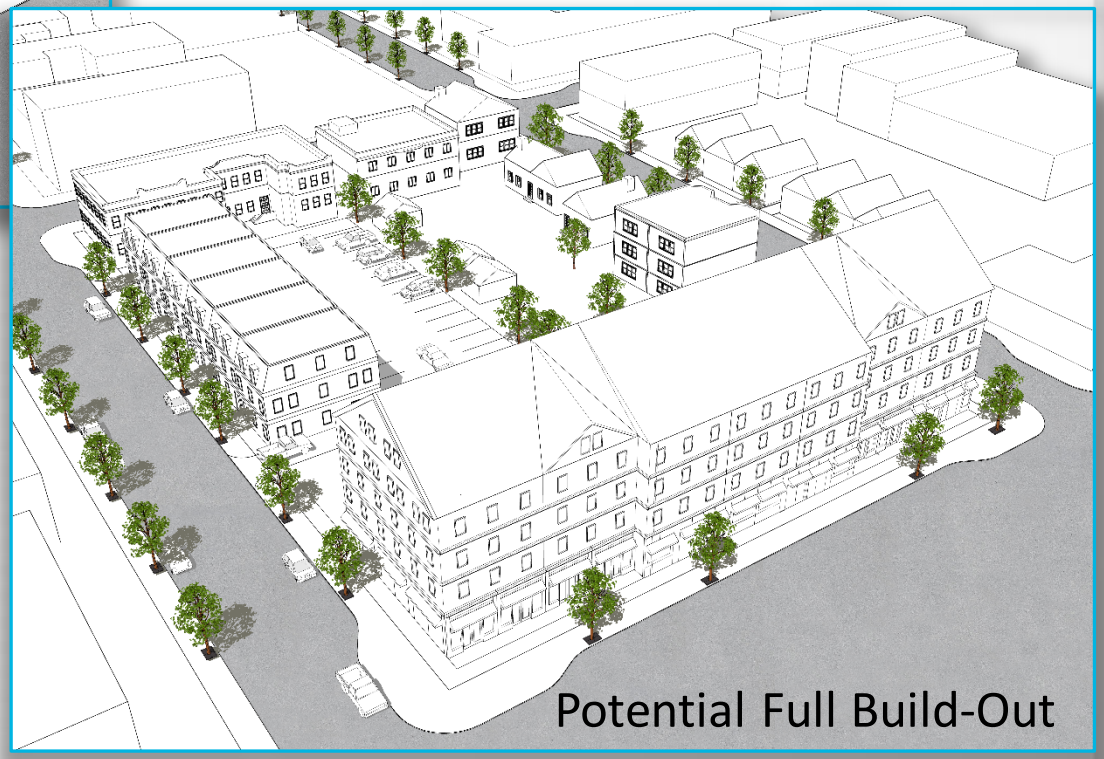


Visual Preference Surveys



Draft ‘Model Block’ for Beacon Falls & Seymour





- Density & Scale
- Streetscaping
- Site Layout
- Architectural Character

Overview of TOD Build-Out Tool

Build-Out Model Overview

- Six step process to update TOD Build-Out Model

Transit-Oriented Development (TOD) Potential

Downtown Derby, CT

Table A: TOD Opportunity Sites

No. of TOD Opportunity Sites	34	
Gross Land Area of Opportunity Sites	22.6	acres
Area required for R.O.W./Open Space	3.4	acres
Net Land Available for TOD	19.2	acres
F.A.R.* of Derby Model Block	1.2	
Potential New TOD Building Area	1,005,039	sq. ft.
Projected Average Dwelling Unit Size	1,100	sq. ft.
Potential Mix of Uses:	Percent	Sq. Ft.
Residential	40%	402,015
General Retail	20%	201,008
Restaurants/Dining	15%	150,756
Office/Commercial	15%	150,756
Maker-Space/Live-Work Studios	10%	100,504
	100%	**1,005,039**

Legend

Number Derived from the "Opp Sites" Tab

Number Can Be "Toggled" Up or Down to Adjust Model

Number is a Product of Formula (should not be altered)

Table B: Required Parking by Use

	Current	Reduced	
Residential	2.5	1.0	spaces per dwelling unit
General Retail	6.67	2.5	spaces per 1,000 g.s.f.
Restaurants/Dining	16	6.1	spaces per 1,000 g.s.f.
Office/ Commercial	4	1.5	spaces per 1,000 g.s.f.
Maker-Space/Live-Work Studios	4	1.5	spaces per 1,000 g.s.f.

Table C: Appropriate Reductions Through Parking Demand Management Strategies**

		Reduc-tion Value	% of Req'd
A	Availability of managed on-street parking	5%	
B	Proximity to municipal parking facility	25%	
C	Mixed-uses w/ Shared Parking & Complementary Demand	10%	
D	Improved Transit & Non-motorized Travel	17%	
E	Traffic Demand Management (TDM, e.g. Zip Car, Uber)	5%	
	Total Reductions	62%	38%

****Parking Demand Management Strategies**

TOD is better enabled when municipalities revise overly conservative minimum parking regulations to utilize new, downtown-appropriate parking requirements (preferably based on parking maximums) that factor:

A) Availability of on-street parking that is managed or enforced to accommodate use by short-term users (shoppers) and discourage long-term use.

B) Proximity to municipally owned/managed parking facilities.

C) Efficiencies gained through shared parking among a diversity of uses in a building and on the same block, where adjacent uses have complementary peak parking demand times.

D) Reduced travel demand as a consequence of improved access to transit, and improved transit service levels and increased use of alternative transportation systems (transit and non-motorized) as a direct result of creating more walkable and bikable streets.

E) The adoption and implementation of Travel Demand Management (TDM) and parking demand management programs that encourage employers to promote use of transit and car/van-pooling by their employees and incentivizing private, shared vehicle companies (taxis, Uber, Lyft, Zip Car) to provide service in the community.

Table D: Computation of Projected Parking Demand for TOD

	Floor Area (s.f.) from Table A	Ave. Dwelling Unit Size (s.f.) from Table A	No. of Dwelling Units	Current Required Parking Rate (Table B)	Resultant Required Parking Spaces	Reduced Parking Rate (from Table C)	Resultant TOD Parking Demand
Residential	402,015	1,100	365	2.5	914	1.0	347
General Retail	201,008			6.67	1,341	2.5	509
Restaurants/Dining	150,756			16.0	2,412	6.1	917
Office/Commercial	150,756			4.0	603	1.5	229
Maker-Space/Live-Work Studios	100,504			4.0	402	1.5	153
Total	**1,005,039**			**5.6**	**5,672**	**2.1**	**2,155**

Table E: Computation of Projected New Residents and Employees of TOD Opportunity Sites

	Floor Area (s.f.) From Table A	Ave. Dwelling Unit Size (s.f.)	No. of Potential Dwelling Units	Presumed Family Size	Presumed Employees per 1,000 s.f. of TOD	Potential New TOD Residents	Potential New Employees	Potential New TOD Residents and Employees
Residential	402,015	1,100	365	2.5		914		
General Retail	201,008				2		402	
Restaurants/Dining	150,756				3		377	
Office/Commercial	150,756				4		603	
Maker-Space/Live-Work Studios	100,504				4		402	
Totals	**1,005,039**					**914**	**1,784**	**2,698**

1. Input TOD Opportunity Sites
2. Determine Net Land Area
3. Input Desired Density
4. Input Dwelling Unit Size/ Mix of Uses
5. Input Parking Reduction Values
6. Estimate New Residents & Employees of TOD

Step-by-Step Instructions to Update TOD Build-Out Tool

STEP 1 – Input TOD Opportunity Sites

- Sites on the "Opportunity Sites" tab can be added or detracted as conditions change, and gross land area of each site can be adjusted as needed.

"Ansonia Opp. Sites" Tab or Worksheet

I.D.	ACRES	OWNER_NAME	LOCATION
267	1.01	ANSONIA COMMONS LLC	300 MAIN ST
291	0.00		UNKNOWN
297	0.05	KAHYAOGLU DAWN M	41 BRIDGE ST
303	0.08	SEDDA INVESTMENTS LLC	47 BRIDGE ST
315	0.11	CITY OF ANSONIA	296 MAIN ST
344	0.14	ANSONIA RIVERVIEW APARTMENTS LLC	7 W MAIN ST
351	0.39	ANSONIA RIVERVIEW APARTMENTS LLC	15 W MAIN ST
357	0.15	CAPITAL PLAZA ASSOCIATES	290 MAIN ST
410	2.30	FITZPATRICKS INC	430 E MAIN ST
418	0.30	FIALLOS JUAN C	126 S CLIFF ST
465	10.00	ANSONIA PARKING AUTHORITY	30 W MAIN ST
478	1.01	WACHOVIA BANK OF DELAWARE	211 MAIN ST
638	2.65	WASHINGTON MANAGEMENT LLC	65 MAIN ST
681	5.30	CITY OF ANSONIA	500 E MAIN ST
892	1.98	WASHINGTON MANAGEMENT LLC	35 MAIN ST
937	4.20	WASHINGTON MANAGEMENT LLC	1 W MAIN ST
948	3.58	PANDEL PROPERTIES LLC	35 N MAIN ST
1160	16.50	ANSONIA COPPER & BRASS INC	75 LIBERTY ST
1161	22.04	ANSONIA COPPER & BRASS	7 RIVERSIDE DR
	71.79	Total Acres	

STEP 2 – Determine Net Land Area

- The "ROW & open space set aside factor" can increased or decreased, depending upon your community's zoning or subdivision regulations, to determine the "Net Land Area Available for TOD".

Table A of TOD Build-out Tab or Worksheet

Table A: TOD Opportunity Sites		
No. of TOD Opportunity Sites	19	
Area of Opportunity Sites	71.8	acres
Area required for R.O.W./Open Space	10.8	acres
Net Land Available for TOD	61.0	acres
F.A.R.* of Derby Model Block	1.0	
Potential New TOD Building Area	2,658,097	
Projected Average Dwelling Unit Size	1,100	sq. ft.
Potential Mix of Uses:	Percent	Sq. Ft.
Residential	50%	1,329,048
General Retail	15%	398,714
Restaurants/Dining	10%	265,810
Office/Commercial	15%	398,714
Maker-Space/Live-Work Studios	10%	265,810
	100%	**2,658,097**

STEP 3 – Input Desired Density

- The FAR, or density of your downtown to understand how, for example, a relatively minor increase in development can significantly affect the square footage of future development or the number of potential new job in your downtown

Table A of TOD Build-out Tab or Worksheet

Table A: TOD Opportunity Sites		
No. of TOD Opportunity Sites	19	
Area of Opportunity Sites	71.8	acres
Area required for R.O.W./Open Space	10.8	acres
Net Land Available for TOD	61.0	acres
F.A.R.* of Derby Model Block	1.0	
Potential New TOD Building Area	2,658,097	
Projected Average Dwelling Unit Size	1,100	sq. ft.
Potential Mix of Uses:	Percent	Sq. Ft.
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Office/Commercial	15%	398,714
Maker-Space/Live-Work Studios	10%	265,810
	100%	**2,658,097**

STEP 4 – Input Dwelling Unit Size/Mix of Uses

- Change "Average Dwelling Unit Size" to adjust for market or zoning changes.
- Change the % value for each category of land use to predict demand for future development.

Table A of TOD Build-out Tab or Worksheet

Table A: TOD Opportunity Sites		
No. of TOD Opportunity Sites	19	
Area of Opportunity Sites	71.8	acres
Area required for R.O.W./Open Space	10.8	acres
Net Land Available for TOD	61.0	acres
F.A.R.* of Derby Model Block	1.0	
Potential New TOD Building Area	2,658,097	
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Maker-Space/Live-Work Studios	10%	265,810
	100%	**2,658,097**

STEP 5 – Input Parking Reduction Values

- Adjust "Current" required parking by use per current zoning code.
- Adjust values in "Appropriate Reductions Through Parking Demand Management Strategies" section to reflect changes in parking code or public parking supply. Results may warrant reductions to minimum required parking in zoning regulations.

Table B of TOD Build-out Tab or Worksheet

Table B: Required Parking by Use	Current	Reduced	
Residential	2.5	1.0	spaces per dwelling unit
General Retail	6.67	2.5	spaces per 1,000 g.s.f.
Restaurants/Dining	16	6.1	spaces per 1,000 g.s.f.
Office/ Commercial	4	1.5	spaces per 1,000 g.s.f.
Maker-Space/Live-Work Studios	4	1.5	spaces per 1,000 g.s.f.

Table C of TOD Build-out Tab or Worksheet

	Table C: Appropriate Reductions Through Parking Demand Management Strategies**	Reduc-tion Value	% of Req'd
A	Availability of managed on-street parking	5%	
B	Proximity to municipal parking facility	25%	
C	Mixed-uses w/ Shared Parking & Complementary Demand	10%	
D	Improved Transit & Non-motorized Travel	17%	
E	Traffic Demand Management (TDM, e.g. Zip Car, Uber)	5%	
	Total Reductions	62%	38%

STEP 5B – Review Reduce Parking Demand

- Adjustments to "Current" required parking and in "Appropriate Reductions Through Parking Demand Management Strategies" provide output titled "Projected Parking Demand for TOD."
- The benefits of reduced parking reflected in this table may warrant reductions to minimum required parking in zoning regulations.

Table D of TOD Build-out Tab or Worksheet

Table D: Computation of Projected Parking Demand for TOD

	Floor Area (s.f.)	Ave. Dwelling Unit Size (s.f.)	No. of Dwelling Units	Current Required Parking Rate	Resultant Required Parking Spaces	Reduced Parking Rate*	Resultant TOD Parking Demand
Residential	1,329,048	1,100	1,208	2.5	3,021	1.0	1,148
General Retail	398,714			6.67	2,659	2.5	1,011
Restaurants/Dining	265,810			16.0	4,253	6.1	1,616
Office/Commercial	398,714			4.0	1,595	1.5	606
Maker-Space/Live-Work Studios	265,810			4.0	1,063	1.5	404
Total	**2,658,097**			**4.7**	**12,591**	**1.8**	**4,785**

STEP 6 – Estimate New Residents & Employees

- Adjust "Family Size" and "Employees per 1,000 sq. ft. of TOD" to estimate future downtown residents and workers,
- These results represent one potential TOD scenario. The outputs help to understand and plan TOD – e.g. future tax revenue, future demand for utilities, future parking demand, future demand for transit, and future traffic.

Table E of TOD Build-out Tab or Worksheet

Table E: Computation of Projected New Residents and Employees of TOD Opportunity Sites

	Floor Area (s.f.) From Table A	Ave. Dwelling Unit Size (s.f.)	No. of Potential Dwelling Units	Presumed Family Size	Presumed Emloyees per 1,000 s.f. of TOD	Potential New TOD Residents	Potential New Employees	Potential New TOD Residents and Employees
Residential	1,329,048	1,100	1,208	2.5		3,021		
General Retail	398,714				2		797	
Restaurants/Dining	265,810				3		665	
Office/Commercial	398,714				4		1,595	
Maker-Space/Live-Work Studios	265,810				4		1,063	
Totals	**2,658,097**					**3,021**	**4,120**	**7,141**

Questions?

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Project Website: **Rt8CorridorStudy.com**

AECOM