

# Transit Oriented Development Plan Bethel, Connecticut



## Technical Analysis – Status



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**CDM  
Smith**®

# Agenda

- Technical Analysis Summary
- Sanitary Sewerage
- Environment – Wetlands
- Environment – Parcel Concerns/Historic Usage
- Transportation and Complete Streets



# Summary – Overall Analysis

- Data Collection Efforts Completed
- Field Work Completed
- Initial Findings Developed
- Recommendations
  - November Design Charrette



# Sanitary Sewerage

- 3 Collection System Service Areas in Bethel
- Each area is flow limited by terms stipulated in the IMA

**Service Areas in Bethel and Flow Limitations**

| Service Area | Average Daily Flow Limit (gpd) | Max. Day Flow Limit (gpd) |
|--------------|--------------------------------|---------------------------|
| Berkshire    | 80,000                         | 201,600                   |
| Paul Street  | 1,330,000                      | 4,032,000                 |
| Payne Road   | 590,000                        | 1,872,000                 |
| <b>Total</b> | <b>2,000,000</b>               | <b>6,105,600</b>          |

# Initial Analysis

- TOD Study Area Served by Paul Street Pumping Station
- Average Daily Flow = 928,000 gallons per day (gpd)
- Estimated Remaining capacity = 400,000 gpd
- Highest Capacity Need for TOD Planning Est. at 200,000 gpd

**Paul Street Pumping Station**  
**Average Daily Flow and Remaining Capacity**

| Pumping Station | Average Daily Flow | Estimated Remaining Capacity |
|-----------------|--------------------|------------------------------|
| Paul Street     | 928,841 <u>gpd</u> | 400,000 <u>gpd</u>           |

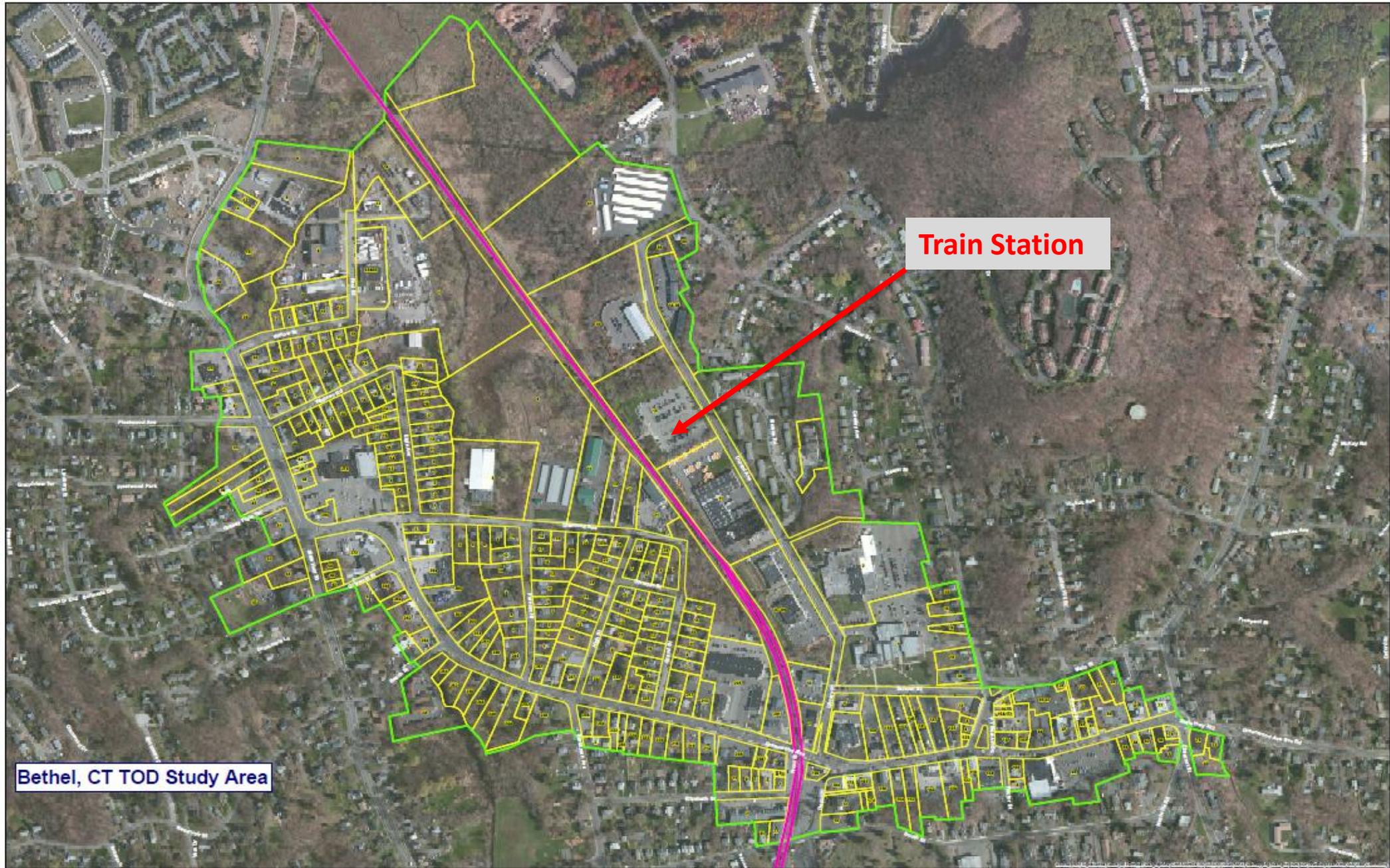
# Paul Street Pumping Station

- Estimated remaining capacity = difference between Intermunicipal agreement permitted flow versus current average daily flow
- Flow allocation is ½ of the Remaining Capacity
  - Factor of safety - 50% reserve capacity
  - Flow allocation pending Town's I and I Study and Site Specific Development Analysis (wetlands, floodplain, setbacks, etc.)

## Paul Street Service Area Flow Allocation

| Service Area | Flow Allocation    |
|--------------|--------------------|
| Paul Street  | 200,000 <u>gpd</u> |

# General Redevelopment Area



**Train Station**

**Bethel, CT TOD Study Area**

# Potential Development Calculations

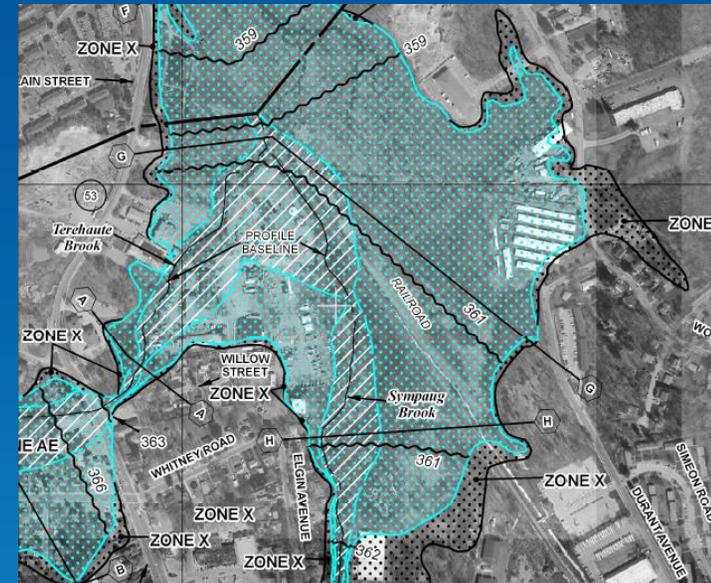
| Parcel | Gross Acreage | Zoning     | Possible Usage Type       | Parcel | Gross Acreage | Zoning                   | Possible Usage Type |
|--------|---------------|------------|---------------------------|--------|---------------|--------------------------|---------------------|
| 1      | 3.1           | Industrial | Residential               | 21     | 0.3           | Commercial               | Retail/Commercial   |
| 2      | 11.1          | Industrial | Residential               | 22     | 0.1           | Commercial               | Retail/Commercial   |
| 3      | 10.8          | Industrial | Residential               | 23     | 0.2           | Commercial               | Retail/Commercial   |
| 4      | 0.9           | Commercial | Doctors Office            | 24     | 0.2           | Commercial               | Retail/Commercial   |
| 5      | 0.1           | Commercial | None                      | 25     | 0.4           | Commercial               | Retail/Commercial   |
| 6      | 0.5           | Commercial | Doctors Office            | 26     | 0.2           | Professional Office      | Professional office |
| 7      | 0.5           | Commercial | Doctors Office            | 27     | 0.2           | Professional Office      | Professional office |
| 8      | 0.4           | Commercial | Doctors Office            | 28     | 0.5           | Commercial               | Retail/Commercial   |
| 9      | 0.3           | Commercial | Doctors Office            | 29     | 0.4           | Commercial               | Retail/Commercial   |
| 10     | 0.4           | Commercial | Doctors Office            | 30     | 0.8           | Commercial               | Retail/Commercial   |
| 11     | 0.1           | Commercial | Residential               | 31     | 0.8           | Commercial               | Retail/Commercial   |
| 12     | 0.2           | Commercial | Residential               | 32     | 0.2           | Commercial               | Retail/Commercial   |
| 13     | 0.1           | Commercial | Residential               | 33     | 0.2           | Commercial               | Retail/Commercial   |
| 14     | 0.7           | Commercial | Restaurant                | 34     | 0.4           | Commercial               | Retail/Commercial   |
| 15     | 0.5           | Commercial | Restaurant                | 35     | 0.3           | Commercial               | Retail/Commercial   |
| 16     | 0.3           | Commercial | Hair Stylist              | 36     | 0.2           | Commercial               | Retail/Commercial   |
| 17     | 3.0           | Commercial | Residential / Supermarket | 37     | 1.0           | Commercial               | Restaurant          |
| 18     | 0.2           | Commercial | Retail/Commercial         | 38     | 0.5           | Residential Multi Family | Residential         |
| 19     | 0.2           | Commercial | Retail/Commercial         | 39     | 2.2           | Residential Multi Family | Residential         |
| 20     | 0.2           | Commercial | Retail/Commercial         | 40     | 0.3           | Residential Multi Family | Residential         |
|        |               |            |                           |        |               | Additional Development   | Residential         |

# Sewer Analysis Summary

- 200,000 gpd Potentially Available for Future Development
- 40 Specific Parcels Reviewed for Potential for Redevelopment
  - Sewer Generation Calculations
- 200,000 gpd can support
  - Desired Housing Density
  - Professional offices
  - Restaurants
  - Small Retail/Commercial Establishments

# Environment – Wetlands/Floodplain

- Wetlands field reconnaissance Completed
  - Reconnaissance, No Delineations
- Raw land within the study area
  - Confirmed as Wetlands and floodplain
  - Associated with Sympaug Brook and its tributaries
- Field reviewed wetlands extend beyond the limits of mapped hydric soils
- Floodplain Sympaug Brook – Paul Street Area



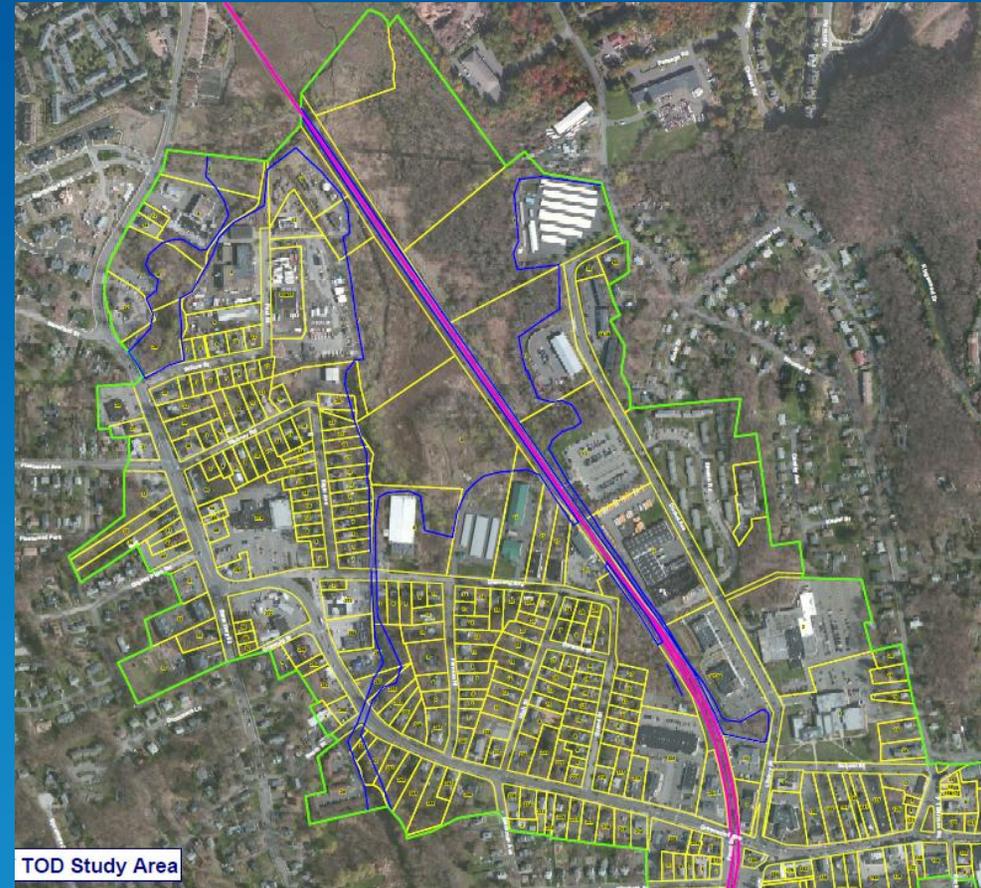
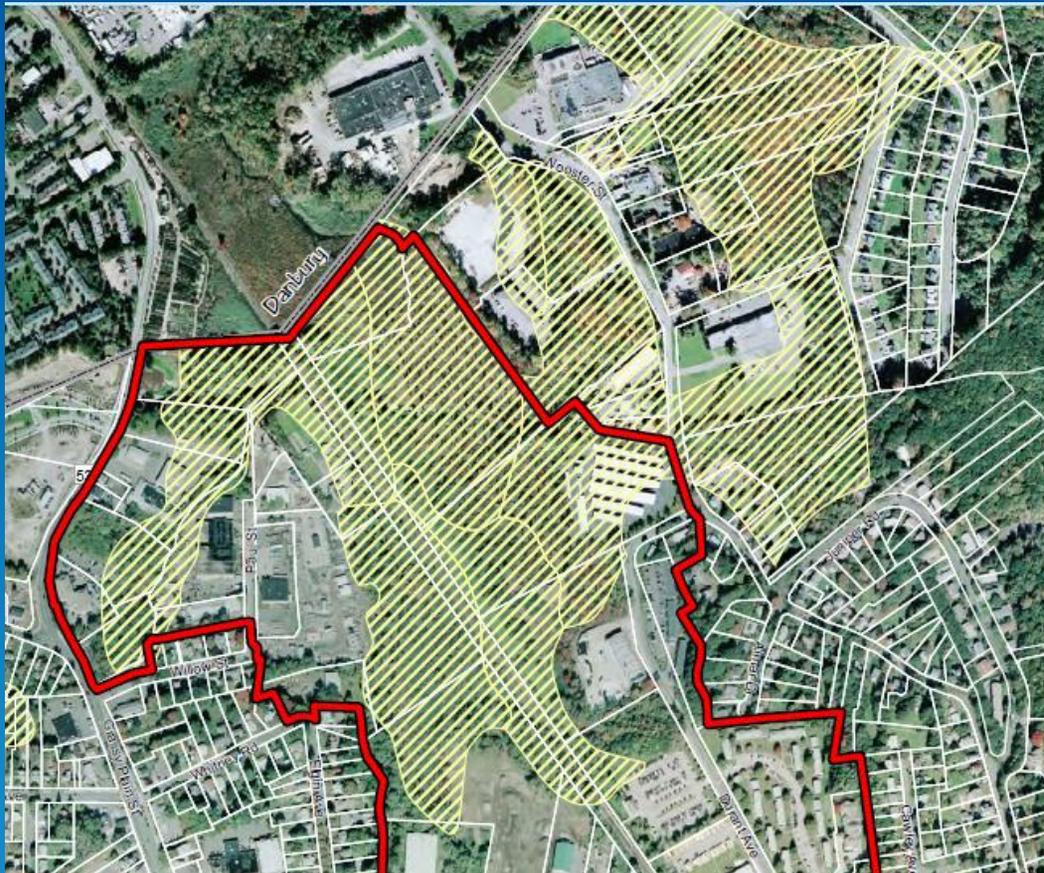
# Environment – Wetland Impact Permitting

- Depending on the Extent of the Impacts, Permits/ Approvals May Be Required:
  - Bethel IWWA
  - CT DEEP
  - US Army Corps of Engineers
  - USFWS
- Limit TOD Project Direct Impacts to Wetlands - Less Than 1 acre – Review Clearing (Bats)
- Wetlands Mitigation Can Be Costly
  - Typically 2:1 Replacement



# Environment – Wetland Limits

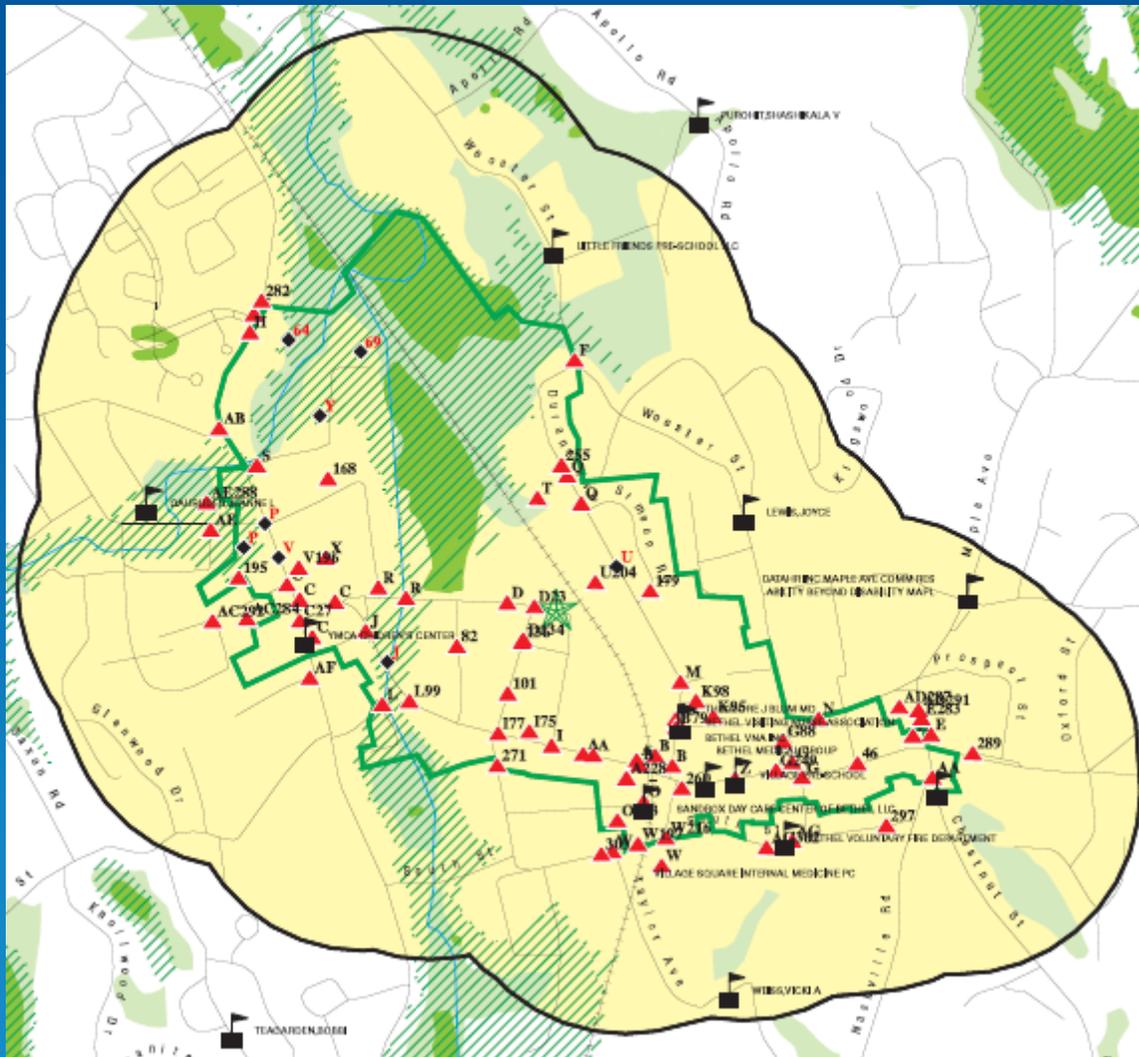
- Larger Area Than Previous Studies



# Environmental Risk Sites

- Environmental database search of study area is completed
- Windshield survey of area is completed
- Reviewing database and windshield survey findings
- Developing map of high, moderate and low environmental risk sites

# Environmental Risk Sites



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites

-  Indian Reservations BIA
-  Power transmission lines
-  100-year flood zone
-  500-year flood zone
-  National Wetland Inventory
-  State Wetlands

# Transportation: Mobility & Connectivity

What We Heard

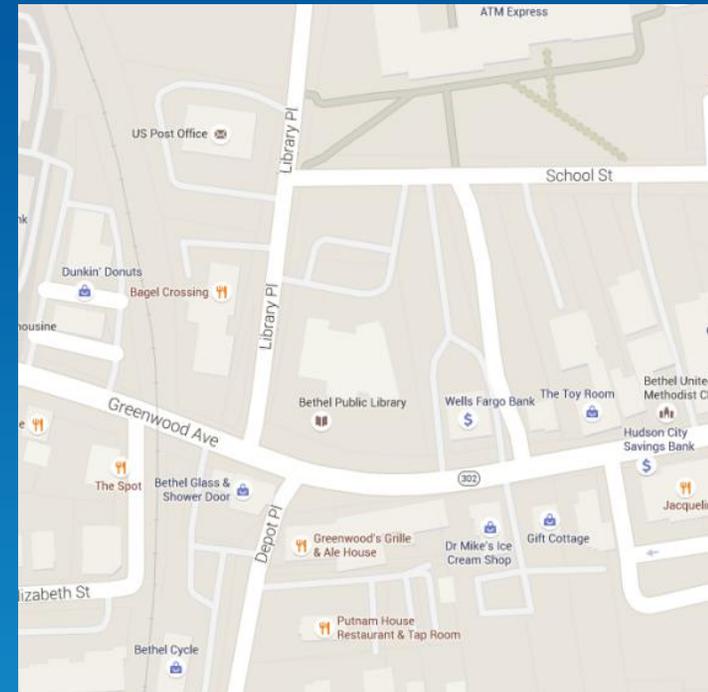
| Top Public Comments on Bethel Center Streets |   |                        |
|--|---|------------------------|
|  | <i>General Comment</i>                                      | <i>No. of Comments</i> |
| <b>WALKABILITY</b>                           | Provide better sidewalks, improve <b>walkability</b>        | <b>24</b>              |
| <b>OFF-STREET PARKING</b>                    | Provide better or more <b>off-street parking</b>            | <b>16</b>              |
| <b>BICYCLES</b>                              | Provide bike lanes & new <b>bicycle facilities</b>          | <b>8</b>               |
| <b>TRAFFIC</b>                               | Provide relief from <b>traffic congestion</b>               | <b>7</b>               |
| <b>GREENWAY</b>                              | Create <b>greenway</b> through wetlands north of RR station | <b>7</b>               |
| <b>TRANSIT</b>                               | Provide better <b>transit</b>                               | <b>6</b>               |
| <b>ON-STREET PARKING</b>                     | Remove existing <b>on-street parking</b> for better safety  | <b>6</b>               |
| <b>RR STATION</b>                            | Provide better <b>pedestrians links to the RR Station</b>   | <b>5</b>               |
| <b>CAR FREE SPACES</b>                       | Convert specific streets to <b>car-free public spaces</b>   | <b>4</b>               |
| <b>PARKS</b>                                 | Improve or provide <b>new parks</b> or public spaces        | <b>3</b>               |

# Transportation

Motorized



- Significant traffic on principal arterials
  - Route 53: 11,200 vehicles per day
  - Route 302: 14,100 vpd
- Bethel Station: 257 average weekday passengers (95% Round Trip)
- 4 signalized intersections within TOD area
- No significant capacity constrained intersections/roadways
- One RR crossing in study area creates barrier to mobility & access to new TOD uses.



# Transportation

**Non-Motorized**



- The vibrant pedestrian scale of town center should be replicated in the new TOD district.
- Bethel train station is 0.4 mile north of Bethel Town Center.
- Pedestrian links to TOD areas & the train station are essential.
- A standardized streetscape treatment is desirable.
- State highways limit bicycle & pedestrian mobility
- Local roadways limited
- Complete Streets needed



# What are Complete Streets?

*A set of principles\* where streets are designed to enable safe and convenient access and travel for **all users**: pedestrians, bicyclists, and motorists.*

*More walkable streets enable active transportation, promote environmental quality, enhance economic development and create safer and more livable communities.*

A Complete Streets Toolbox for  
Bethel Center might include:

**P** Pedestrian Safety

**T** Traffic Control

**B** Bicycle Safety

**I** Transit/ Intermodal Enhancements



\*For more information about Complete Streets visit the *National Complete Streets Coalition's* webpage at:  
<http://www.smartgrowthamerica.org/complete-streets>