



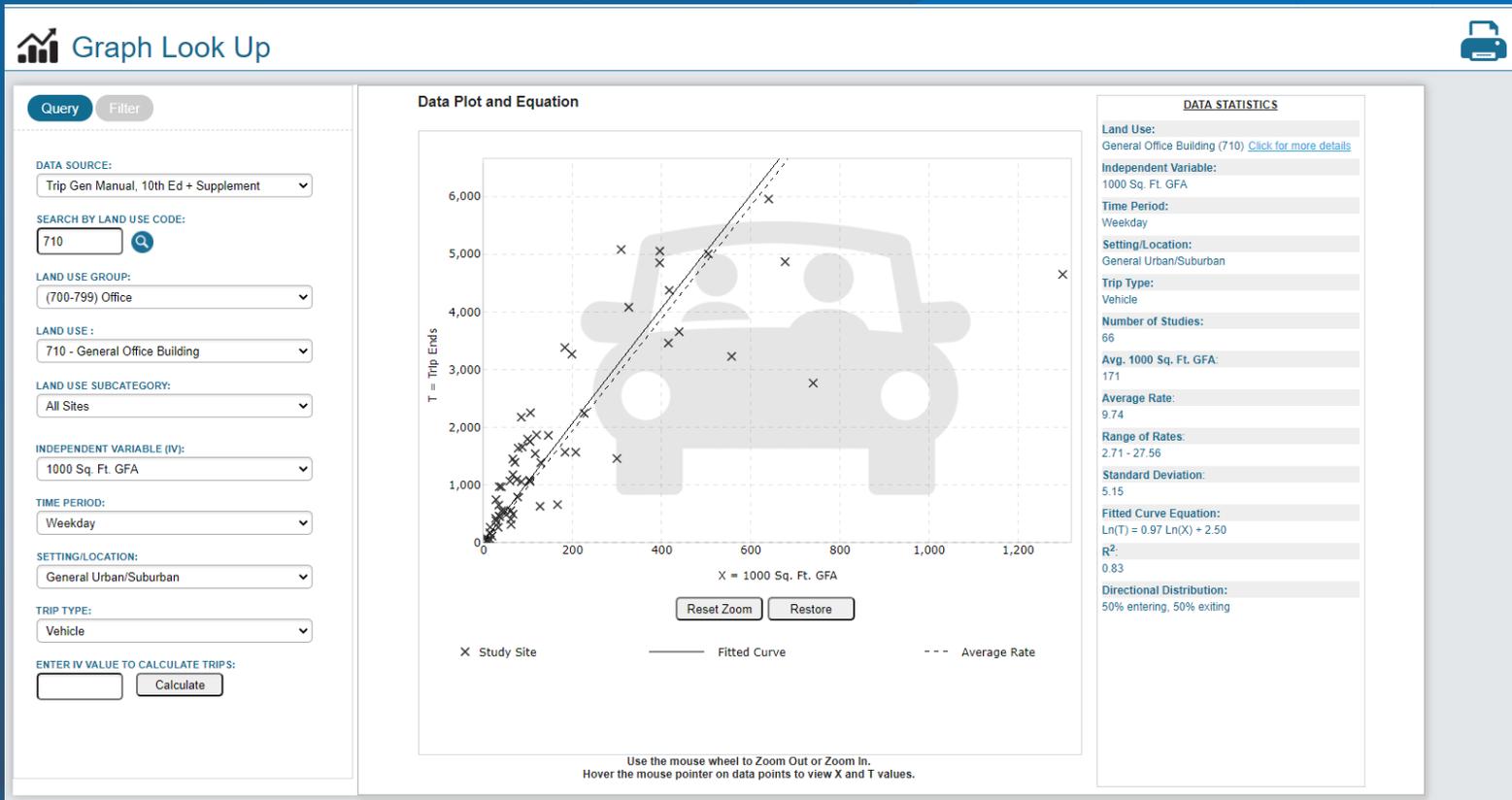
# The Landing - Lancaster Traffic Impact & Off-site Improvements

## Town of Lancaster, MA

December 15, 2021



# Estimating Traffic & Distribution



Institute of Transportation Engineers (ITE) – *Trip Generation 10<sup>th</sup> Edition (2017)*

- Professional Office
- General Retail
- Multifamily Housing
- Industrial Park

# Estimating Traffic & Distribution



US Census Bureau Journey-to-Work & Journey-to-Home Data for Lancaster, MA

- Professional Office
- Multifamily Housing
- Industrial Park

US Census Bureau Population Data vs. Competing Opportunities

- Retail



# Vehicle Trip Summary – All users

Time Period	EXISTING Vehicle Trips (Dunkin, Mobil, J.B. Hunt, FC Stars)	NET PROPOSED Vehicle Trips	Maynard Crossing Vehicle Trips
Weekday Daily	3,022	+ 7,484	10,258
Weekday AM Peak Hour	310	+ 920	430
Weekday PM Peak Hour	310	+ 912	930
Saturday Daily	3,494	+ 4,376	14,710
Saturday Midday Peak	330	+ 378	1,441

**This is the SUM of all  
entering and exiting  
traffic in all directions**

# Vehicle Trip Summary – All users

Time Period	EXISTING Vehicle Trips (Dunkin, Mobil, J.B. Hunt, FC Stars)	NET PROPOSED Vehicle Trips	Leominster Route 117 Shopping Centers (ITE Trip Gen)	Leominster Route 117 Shopping Centers (July 2021)	% Less (ITE vs. July 2021 Traffic Count)
Weekday Daily	3,022	+ 7,484	21,698	16,882	22%
Weekday AM Peak Hour	310	+ 920	1,214	856	29%
Weekday PM Peak Hour	310	+ 912	1,941	1,497	23%
Saturday Daily	3,494	+ 4,376			
Saturday Midday Peak	330	+ 378			

# Trucks

Currently there are approximately 370 truck trips per day for  
J.B. Hunt + Central Mass Sand & Gravel



These trucks will be removed from the roadway network

Full Build-Out Truck Traffic (SUM OF ALL DIRECTIONS)

NET Site Trucks - Day: 450

NET Site Trucks - AM Peak Hour: 48 (less than 1 new truck per minute)

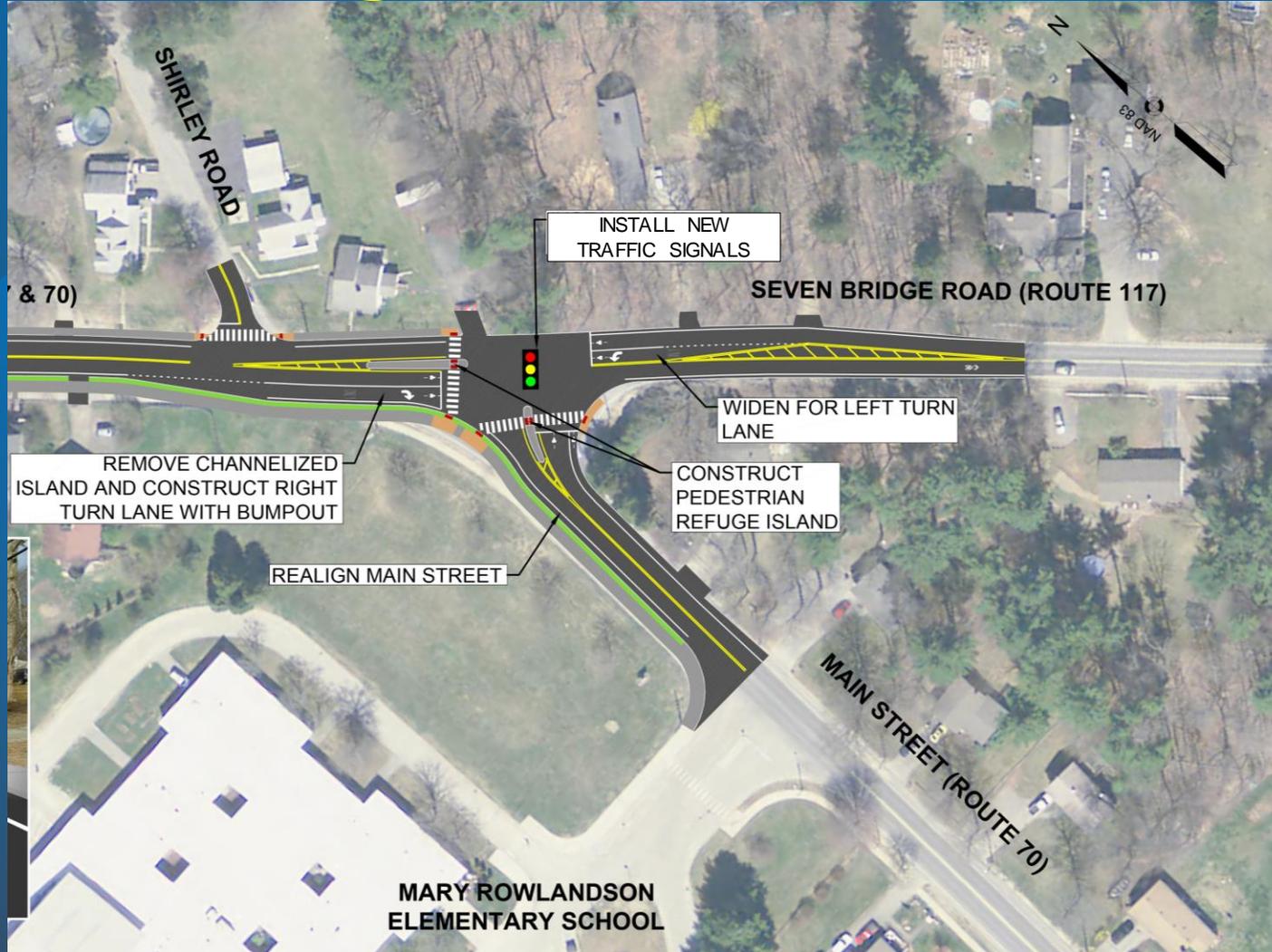
NET Site Trucks - PM Peak Hour: 13 (about 1 new truck per 5 minutes)

# MassDOT / Town Scheduled Transportation Improvements

Infrastructure Projects Below are Independent of the Capital Group  
Off-Site Infrastructure Improvement Program

- NEW Traffic Signal and Turn Lanes at Lunenburg Road / Main Street  
(Construction begins Spring/Summer 2022)
- NEW Traffic Signal and Turn Lanes at Main Street / Seven Bridge Road  
(Construction begins Spring/Summer 2022)
- NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2  
Interchange 102 (DESIGN STARTED – MassDOT Working on Route 2 Study)
- NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2  
Interchange 103 & 104 (MassDOT Pre-Planning Stage - MassDOT Working  
on Route 2 Study)

# Route 70 / 117 Signalization (MassDOT) - 2022



# Route 70 / 117 Signalization (MassDOT) - 2022



# Route 2 Exit 102 Reconstruction (MassDOT #608832) Currently Under Design by Jacobs Engineering



**D'Ambrosio Eye Care**

**Bouchard**  
**Kia/Nissan/Honda**

# Route 2 Exit 103 Reconstruction (MassDOT) Currently in Planning – Route 2 Corridor Study



# Capital Group Off-Site Infrastructure Improvement Program

- NEW Traffic Signal, Ped/Bike Accommodations, and Turn Lanes at McGovern Boulevard / Lunenburg Road (Route 70)
- Interim Acceleration and Deceleration Lane Extension at Route 2 Exit 103 Westbound Ramps
- Interim Traffic Signal at Lunenburg Road (Route 70) / Fort Pond Road (Prior to MassDOT Future Interchange Reconstruction)
- Signal timing upgrades Main Street / Lunenburg Road & Main Street / Seven Bridge Roads at key occupancy stages.

# Capital Group Off-Site Infrastructure Improvement Program

## Transportation Demand Management (TDM) Program

- Extend MART Bus Route 8 to Site (2 stops in site)
- Bike and Ped Accommodations on-site connecting to Dunkins', Mobil, Kimball's, etc.
- On-Site Services (i.e. laundry services or carpooling)
- Transportation Monitoring Program (TMP) from first occupancy to 5-years following full occupancy.

# Lunenburg Rd / McGovern Blvd (CGP) - 2022



**Kimball's Ice Cream**

**Install New Traffic Signals**

**Install New Bicycle and Pedestrian Accommodations**

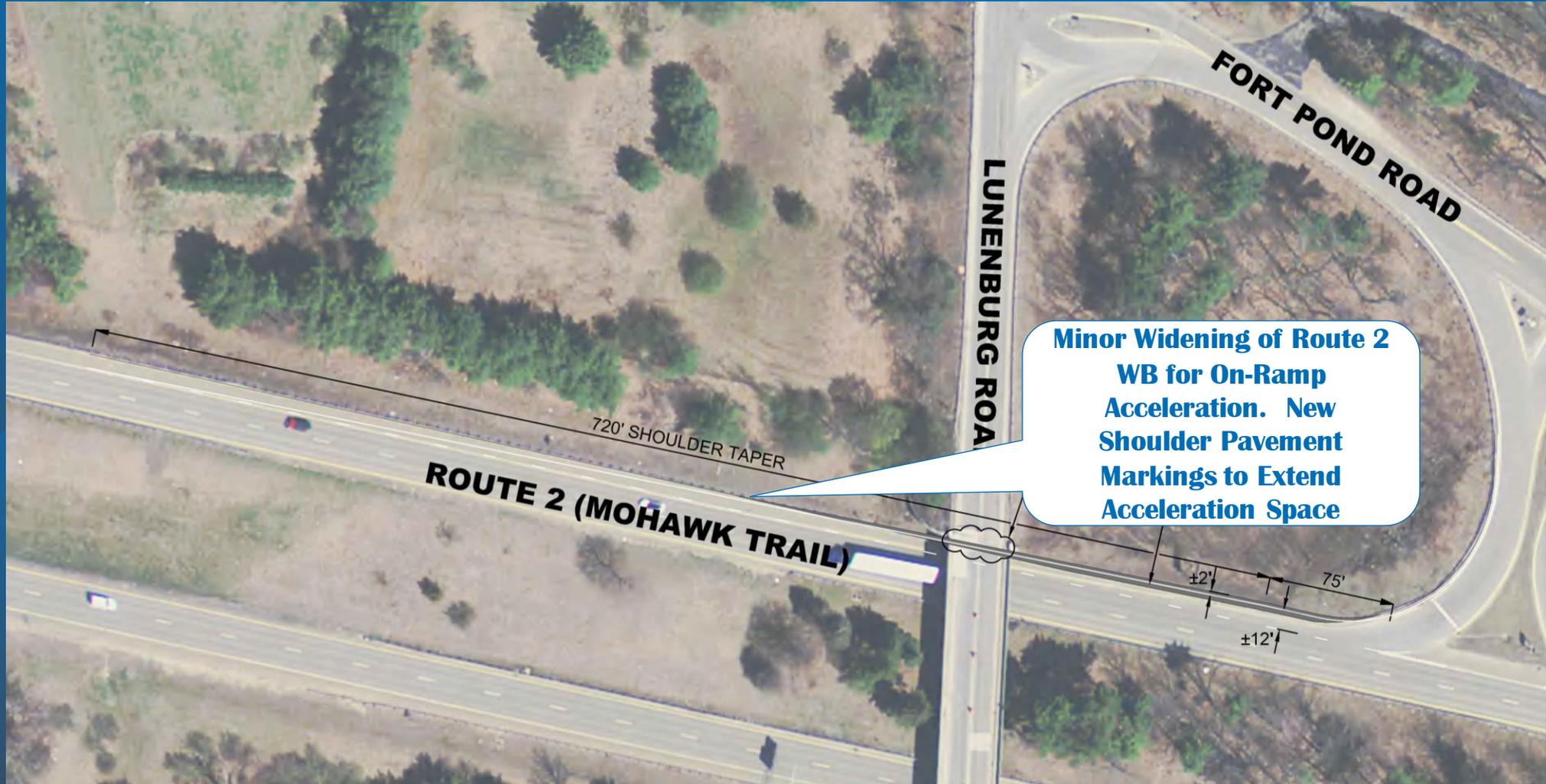
**Add Right-Turn Lane SB with Deceleration and Storage**

**Add Left-Turn Lane NB with Deceleration and Storage**

# Route 2 WB Exit 103 Off-Ramp (Interim)



# Route 2 WB Exit 103 On-Ramp (Interim)



# Lunenburg Road at Fort Pond Road (Interim)



- Construct interim traffic signal at intersection within same geometry.
- Interim traffic signal will be in place until MassDOT improvements at Exit 103 are completed.

# Lunenburg Road at Old Union Turnpike Roundabout



## Roundabout vs. Traffic Signal?

- Signal has 32 vehicle conflict points
- Roundabout has 8 vehicle conflict points

## Space Constraints:

- Signal with turn lane storage requires more space away from intersection

# Lunenburg Road at Old Union Turnpike Roundabout



- Designed for trucks to drive over the center brick inlay to navigate the roundabout.
- Traffic patterns in roundabout will significantly change with MassDOT Exit 102, 103, & 104 Projects.
- When designed, the roundabout design anticipated future development in the area.

# Interstate 190 Ramp Discussion



**FHWA prefers full-access ramps  
- this will add cut-thru traffic  
on local streets**

**Limited development/trips will not  
support ramp investment**

**Cannot meet FHWA criteria for  
1-mile ramp spacing  
(1.64 mi today from Route 2 to  
Route 117)**

**Impacts to Nashua River buffers  
even with partial ramp**

**Difficult to establish need  
given proximity of existing  
highway access**

# Improvement Summary

## **MASSDOT & Town Transportation Improvements [Independent of the Capital Group Infrastructure Improvement Project]**

- NEW Traffic Signal and Turn Lanes at Lunenburg Road / Main Street (Construction Spring/Summer 2022)
- NEW Traffic Signal and Turn Lanes at Main Street / Seven Bridge Road (Construction Spring/Summer 2022)
- NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2 Interchange 102 (DESIGN STARTED – MassDOT working on Route 2 corridor study)
- NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2 Interchange 103 & 104 (MassDOT Pre-Planning Stage – MassDOT working on Route 2 corridor study)

## **Capital Group Off-Site Infrastructure Improvement Project**

- NEW Traffic Signal, Ped/Bike, and Turn Lanes at McGovern Boulevard / Lunenburg Road (Route 70)
- Interim Acceleration and Deceleration Lane Extension at Route 2 Exit 103 Westbound Ramps
- Interim Traffic Signal at Lunenburg Road (Route 70) / Fort Pond Road (Prior to MassDOT Future Interchange Reconstruction)
- Signal timing optimization at Main Street / Lunenburg Road & Main Street / Seven Bridge Road
- TDM Program