

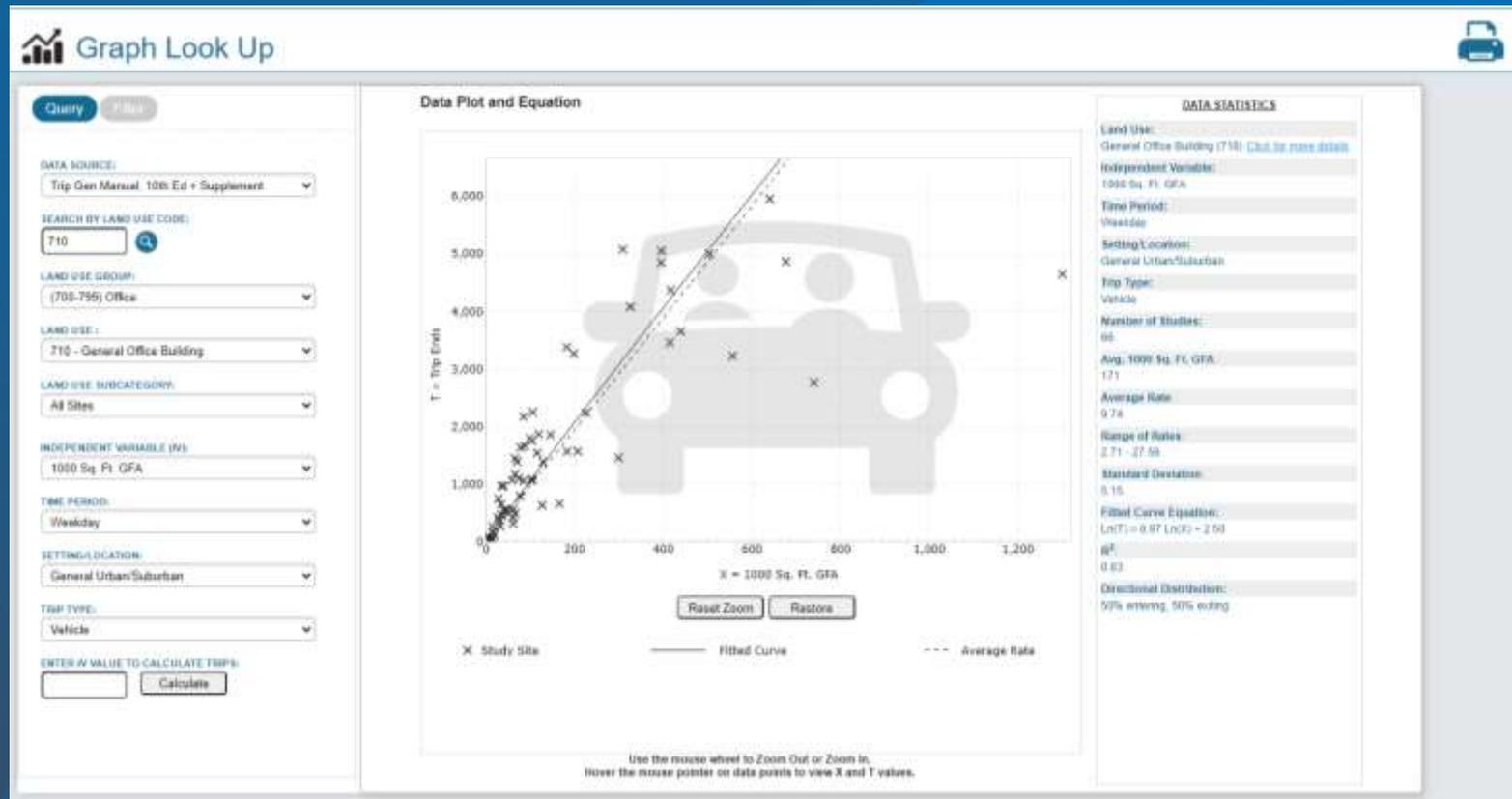
# Capital Commerce Center Traffic Impact & Off-site Improvements

## Town of Lancaster, MA

April 22, 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 – Key Aspects

- Industrial Park (minus Building A Tenant) – Closed on Saturday
- Office / Industrial Park / Apartments – Commuter Hour Represents High Percentage of Daily Traffic
- Industrial Tenants – Weekday & Saturday Shift Times Moved to non-Peak Hours (Trip calculations assume overlap for conservatism)

# Vehicle Trip Summary

Time Period	EXISTING Vehicle Trips (Dunkin, Mobil, J.B. Hunt, FC Stars, Sand/Gravel)	NET PROPOSED Vehicle Trips	Maynard Crossing Vehicle Trips
Weekday Daily	2,664	+ 8,578	10,258
Weekday AM Peak Hour	256	+ 1,062	430
Weekday PM Peak Hour	256	+ 1,076	930
Saturday Daily	3,494	+ 4,626	14,710
Saturday Midday Peak	330	+ 440	1,441

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

# Trucks

Approximately 350 truck trips per day for J.B. Hunt + Central Mass Sand & Gravel



These trucks will be removed from the roadway network

Low End Assumption of 5% Industrial Trips are Trucks

= 200 NET truck trips (100 Entering & 100 Exiting)

High End Assumption of 15% Industrial Trips are Trucks

= 550 NET truck trips (275 Entering & 275 Exiting)

# MassDOT / Town Scheduled Transportation Improvements

- **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 34 (DESIGN – Construction Expected 2022-2025)**
- **NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2 Interchange 35 & 36 (MassDOT Planning Stage)**

**Infrastructure Projects Above are Independent of the Capital Commerce Center Project**

# Route 70 / 117 Signalization (MassDOT) - 2022



# Route 70 / 117 Signalization (MassDOT) - 2022



# Route 2 Exit 34 Reconstruction (MassDOT) – ‘22/’25 Currently Under Design by Jacobs Engineering



**D'Ambrosio Eye Care**

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

# Route 2 Exit 35 Reconstruction (MassDOT) Currently in MassDOT Planning



# Capital Commerce Center Traffic Mitigation

- NEW Traffic Signal and Turn Lanes at McGovern Boulevard / Lunenburg Road (Route 70)
- Traffic Signal Optimization at Main Street / Seven Bridge Road and Main Street / Lunenburg Road Intersections (Occurring at Each Stage of Occupancy)
- Interim Acceleration and Deceleration Lane Extension at Route 2 Exit 35 Westbound Ramps
- Interim Traffic Signal at Lunenburg Road (Route 70) / Fort Pond Road (Prior to MassDOT Future Interchange Reconstruction)
- Evaluation of Left-Turn Only for Site Trucks

# Lunenburg Rd / McGovern Blvd (CGP) - 2022



# Route 2 WB Exit 35 Off-Ramp (Interim)



# Route 2 WB Exit 35 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 35 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 34, 35 & 36 Projects.
- Full build-out conditions with existing traffic patterns:
  - PM average delay = 55-60 sec NB & SB

# Interstate 190 Interchange Discussion



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

**Cannot meet FHWA criteria for 1-mile interchange spacing (1.64 mi today)**

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

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

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

Measure distance  
Click on the map to add to your path  
Total distance: 1.64 mi (2.64 km)



# Improvement Summary

## **MASSDOT & Town Transportation Improvements [Independent of the Capital Commerce Center Project]**

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- 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 34 (DESIGN – Construction Expected 2022-2025)
- NEW Ramp Realignment w/ Acceleration & Deceleration at Route 2 Interchange 35 & 36 (MassDOT Planning Stage – Expected to be Completed Before Full Build-Out)

## **Capital Commerce Center Mitigation**

- NEW Traffic Signal and Turn Lanes at McGovern Boulevard / Lunenburg Road (Route 70)
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