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**TO:** Paul Cohen, Town Manager, Town of Chelmsford  
Kristen Las, Town Manager, Town of Westford

**FROM:** Apple Gould-Schultz, Transportation Planner I, NMCOG  
Kelly Lynema, Deputy Director, NMCOG

**DATE:** July 22, 2025

**RE:** 2025 Update Regarding Heavy Vehicle Traffic at Ledge Road in North  
Chelmsford

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## **BACKGROUND**

In 2022 the Town of Chelmsford contracted with the Northern Middlesex Council of Governments (NMCOG) under the District Local Technical Assistance (DLTA) program to assess increases in heavy vehicle traffic on Ledge Road, Dunstable Road, Rt-40 (Groton Rd) and Swain Road in North Chelmsford. Based on requests from the Town, Congresswoman Trahan's office also contacted MassDOT District 4 in 2021 and NMCOG in early 2022 to inquire about options to mitigate the issue (see Appendix A1.5). This longitudinal study began in 2017 when the Town requested NMCOG's assistance monitoring truck traffic in the area. In 2022, 2024, and 2025, NMCOG again collected traffic volumes on Ledge Road to assess changes.

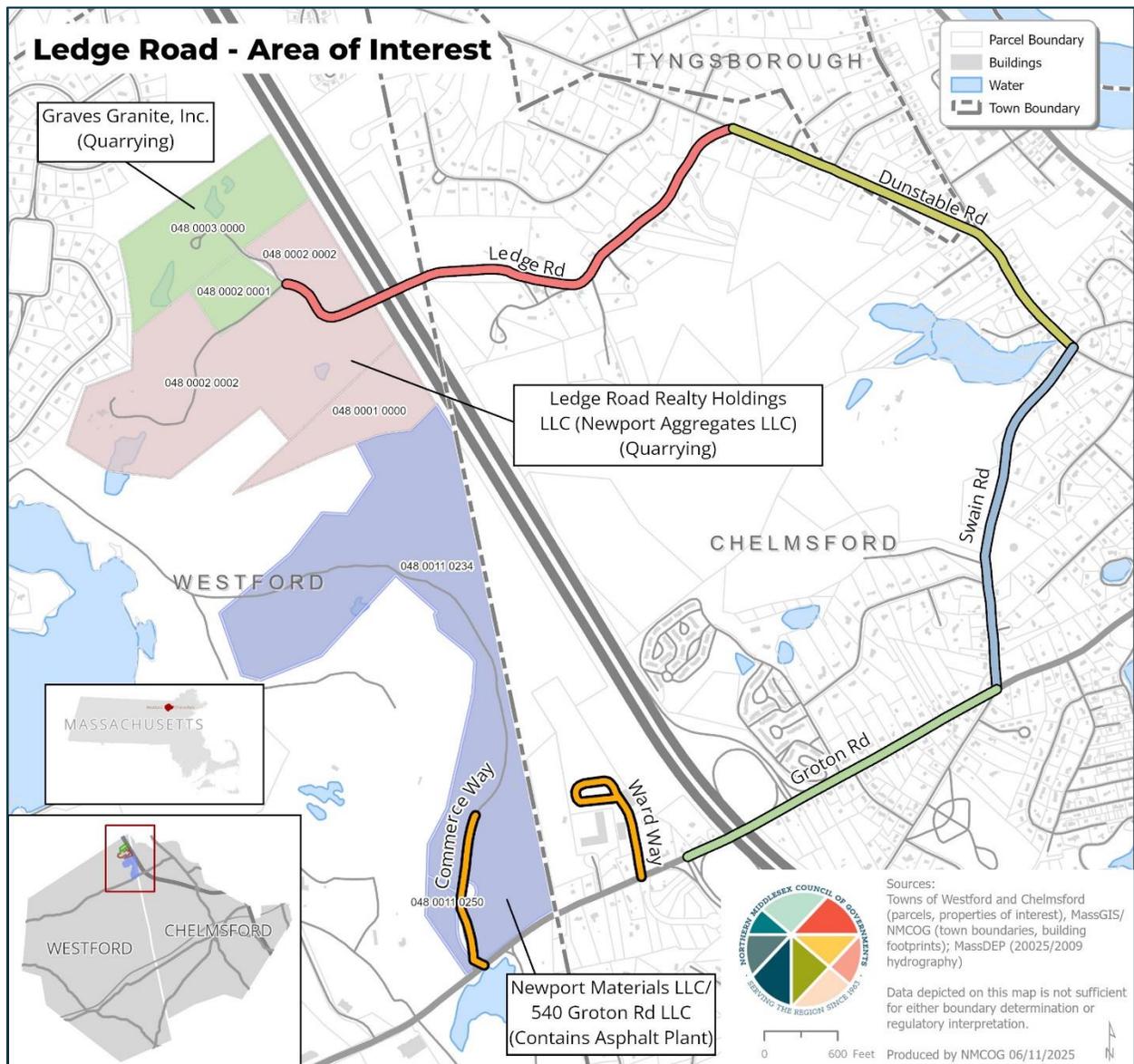
This updated assessment reviews the current traffic conditions. This memo also identifies new and reaffirms previously shared solutions and barriers to implementing each one. A summary of meetings in 2022 with the Towns of Chelmsford and Westford, and the Massachusetts Department of Transportation (MassDOT) is provided in Appendix A. It is an update to the original North Chelmsford Heavy Vehicle Traffic Technical Memorandum issued January 17, 2023.

## **EXISTING CONDITIONS**

As shown in Map 1, Newport Materials, W. J. Graves and Newport Aggregates (owners of Newport Quarry) are the subject businesses located in Westford, near the town line of Chelmsford and Westford. These businesses access Route 3 to deliver goods to surrounding areas.

W. J. Graves and Newport Aggregates are located at the end of Ledge Road—a local road located in the Town of Chelmsford. These two properties at the end of Ledge Road have no alternative access to Route 3 besides using local residential roadways such as Ledge Road, Dunstable Road, and Swain Road. Newport Aggregate is located on Commerce Way off Route 40 in Westford. An internal road connects Newport Quarry to Commerce Way, but is currently not used to transport materials from the properties.

The Town of Westford accepted a Settlement Agreement from Newport Materials in 2016, in which Newport Materials agreed to an approximately \$8.5m settlement agreement consisting of approval of the asphalt plant, materials processing yard, and laboratory building. A condition of approval for the asphalt plant was the limitation of 400 truck trips per day, which excludes internal trips between the subject property and other adjacent properties. The limitation on daily truck trips was determined based on the number of truck trips needed to maintain the existing quarry operations. This limitation, however, applied only to Newport Materials; the condition does not apply to truck traffic from other properties such as Granite State Concrete Quarry (to the west), W. J. Graves Quarry (to the north), and other adjoining properties in Chelmsford.



Map 1. Ledge Road area roadways and properties.

As previously mentioned, NMCOG has traffic volume data for this area from 2017-2025. A review of these data shows that heavy vehicle traffic has increased significantly on the surrounding roadways. However, the data does not provide clarity regarding the distribution of trucks originating from each of the three businesses at the quarry.

Ledge Road is a public way until it reaches the quarries and aggregate plant, where it becomes a private way. Since these businesses are in Westford and are pre-existing non-conforming businesses, it is beyond the Town of Chelmsford's right to restrict truck traffic without providing an alternative route which may be challenging.

### CURRENT ROADWAY CONDITIONS

Map 1 illustrates the roadways and the properties under discussion, including Ledge Road, Dunstable Road, Swain Road, Ward Way and Groton Road in North Chelmsford. Commerce Way lies in Westford.

Ledge Road is classified as a local road, with a speed limit of 20 mph; Dunstable Road is classified as a collector with a speed limit of 30 mph; Swain Road is a local road with a speed limit of 30 mph; and Rt-40 (Groton Road) is an arterial with a speed limit of 40 mph. Ledge Road, Dunstable Road, Swain Road and Rt-40 (Groton Road) are two-way roads with one travel lane in each direction. Ledge Road, Dunstable Road, and Swain Road have no sidewalks or bicycle accommodations, while Groton Road (Rt-40) has sidewalks on both sides between Swain Road and exit to Route 3.

### CURRENT TRAFFIC CONDITIONS

The table below summarizes Average Annual Daily Traffic (AADT) and truck percentages for various locations near Ledge Road between 2017 and 2025. The data demonstrates a significant increase in truck traffic over this period.

*Table 1 Summary of Average Annual Daily Traffic (AADT) and Truck Percentages by Traffic Count Location: 2017-2025.*

MS2 ID	Location of Count	Year	AADT	Truck %	Truck Count	Speed Limit	Average Speed (mph)
3372719	Dunstable Rd east of Ledge Rd	2018	2270	10.3	234	30	37
		2019	2451	9.8	240		
		2022	2078	17.1	355		
		2023	2883	5.4	156		
3372982	Dunstable Rd west of Ledge Rd	2022	1812	8	145	30	38
		2023	1863	5.5	102		
3372608	Ledge Rd south of Dunstable Rd	2017	340	12.6	43	20	
		2018	427	37.5	160		
		2019	433	56.9	246		
		2022	791	58.2	460		
		2023	757	49.4	374		

MS2 ID	Location of Count	Year	AADT	Truck %	Truck Count	Speed Limit	Average Speed (mph)
		2024	796	65.3	520		26
		2025	826	67.0	553		21.3
235863	Rt-40 (Groton Rd) east of Rt-3 Northbound	2018	9461	2.1	199	40	45
		2020	7615	9.5	723		45
		2021	9246	8.3	767		45
		2022	8860	17.6	1559		45
		2023	9204	5.3	488		
3372716	Swain Rd north of Rt-40 (Groton Rd)	2018	2400	5.9	142	30	
		2019	2674	9.6	257		
		2022	2212	14.4	319		
		2023	2108	10.4	219		
3372625	Swain Rd south of Dunstable Rd	2017	2600	6	156	30	
		2018	2400	6.4	154		
		2019	2590	8.7	225		
		2022	2104	15.2	320		
		2023	2364	16.6	392		

**Swain Road South of Dunstable Road**

The Swain Road south of Dunstable Road location was monitored in 2017, 2018, 2019, 2022, and 2023 at various intervals ranging from three to five days. The average truck percentage of total vehicle types has steadily increased from 6% in 2017 to 16.6% in 2023, corresponding to an increase in average truck trips per day from 129 to 392 (Figure 1).

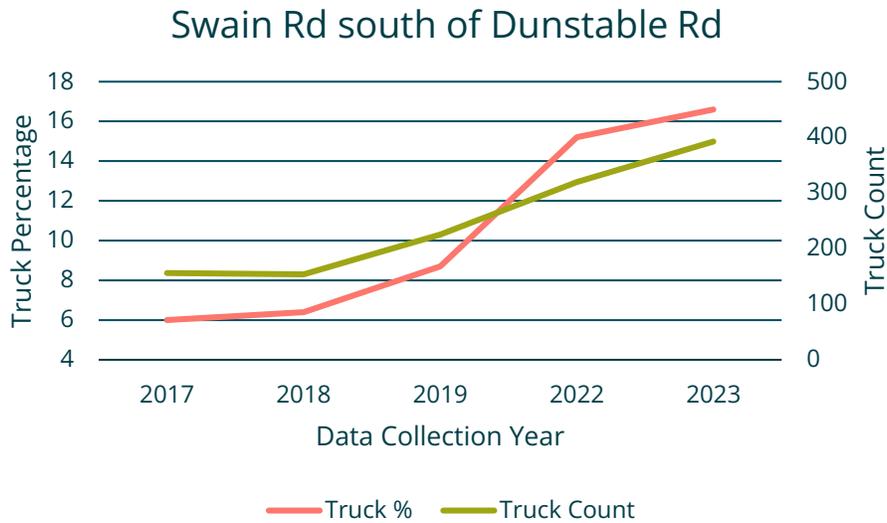
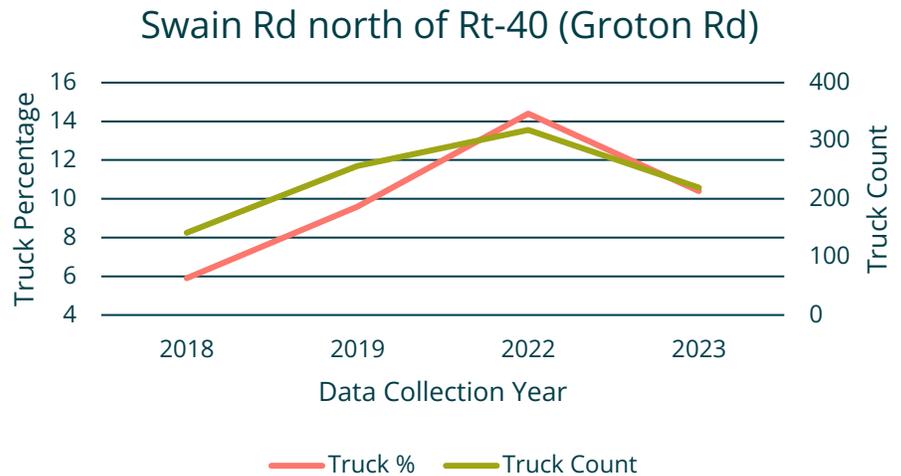


Figure 1. Graph of average daily truck percentage and count at Swain Road South of Dunstable Road.

### Swain Road North of Groton Road

The Swain Road north of Dunstable Road location was monitored in 2018, 2019, 2022, and 2023 at intervals of two to five days. The average truck percentage in 2018 was 5.9%, which then increased to 9.5% in 2019. This corresponds with an average daily truck count of 160, which increased to 246 over the course of a year. Over the following three years, the average daily truck percentage increased to 14.4%, or an average of 319 truck trips per day. 2023 saw a decrease in both truck percentage and truck count, although both data points remain above 2019 volumes (Figure 2).

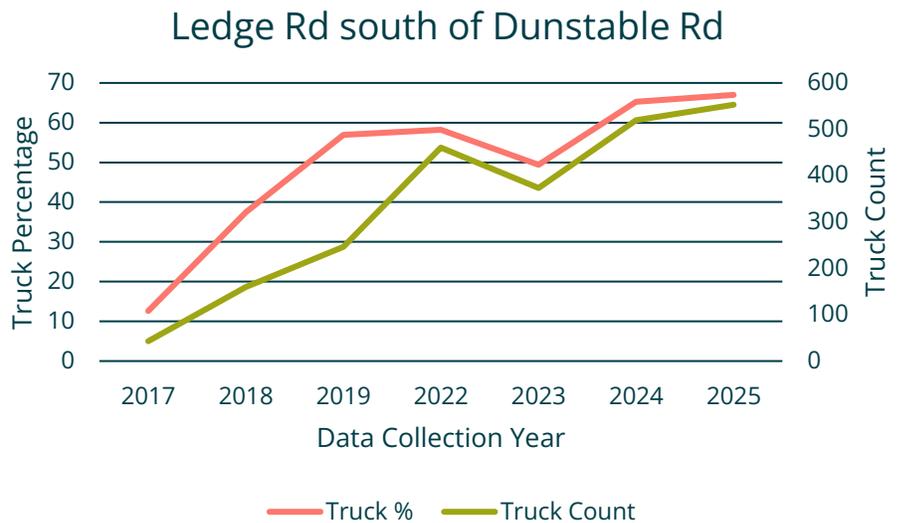
Figure 2. Graph of average daily truck percentage and count at Swain Road North of Groton Road.



### Ledge Road South of Dunstable Rd

The Ledge Road south of Dunstable Road location was monitored in 2017, 2018, 2019, 2022, 2023, 2024, and 2025 at various intervals ranging from two to 12 days. When Ledge Rd was initially monitored in 2017, the average truck percentage was 12.6% of total daily vehicle trips. This is equivalent to an average of 43 truck trips per day. The latest monitoring in 2025 shows an average of 553 truck trips per day. The average daily truck percentage also peaked in 2025, with 67.0% of vehicles on Ledge Road being heavy truck vehicles (Figure 3). The 2025 data was collected over three days (June 3 - June 5) and shows an increase in heavy truck use from 2024, recording 65.3% truck traffic.

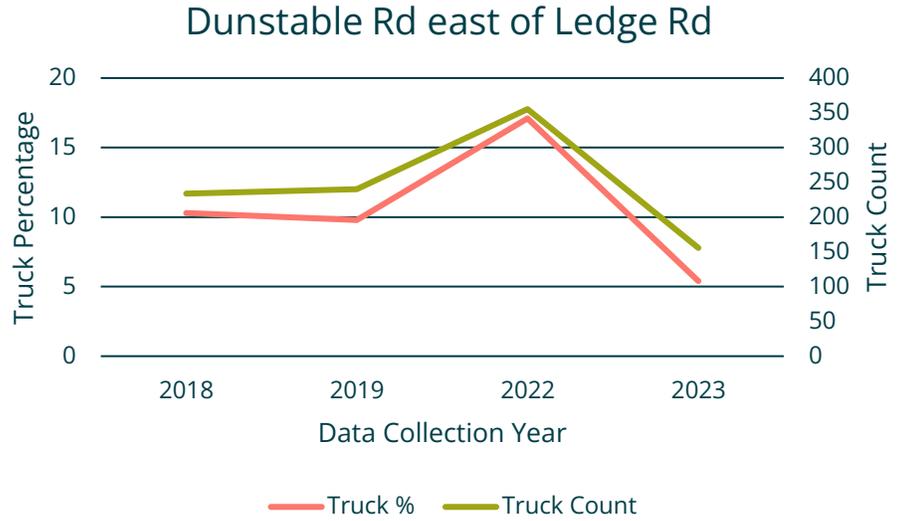
Figure 3. Graph of average daily truck percentage and count at Ledge Road South of Dunstable Road.



**Dunstable Road East of Ledge Road**

The Dunstable Road east of Ledge Road location was monitored in 2018, 2019, 2022, and 2023 at various intervals ranging from two to eight days. The average truck percentage in 2018 was 10.3%, corresponding to an average of 160 daily truck trips. 2019 saw a decrease in average truck percentage (9.8%) but an increase in average daily truck trips (240) due to an overall increase in traffic volume along Dunstable Road that year.

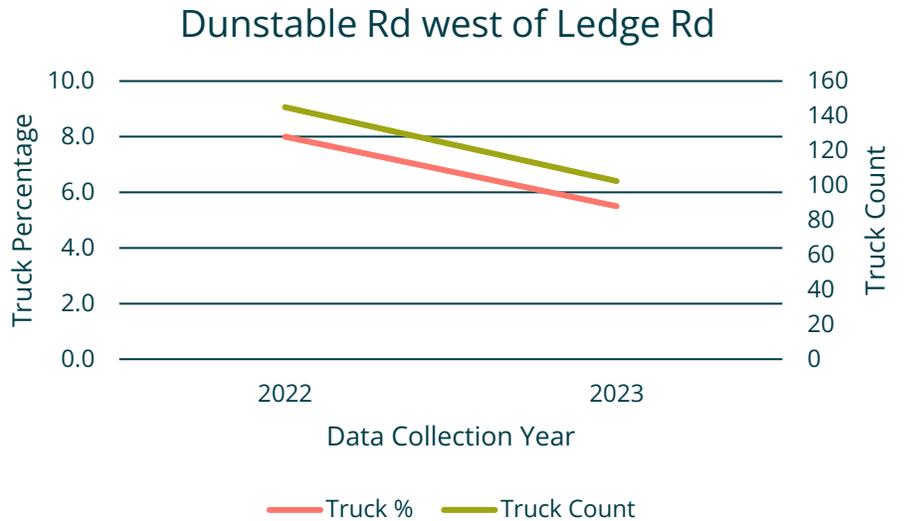
2022 saw a sharp increase in both average truck percentage (17.1%) and average daily truck trips (355), although the location experienced a sharp drop-off in 2023 (Figure 4). A similar pattern is seen for 2022-2023 on Dunstable Road west of Ledge Road.



*Figure 4. Graph of average daily truck percentage and count at Dunstable Road East of Ledge Road.*

**Dunstable Road West of Ledge Road**

The Dunstable Road west of Ledge Road was first monitored in May 2022 for five days, with a second data collection period occurring over two days in September 2023. The average truck percentage decreased from 8% (or 145 average daily truck trips) to 5.5% (102 average daily truck trips) across the monitoring timeframe (Figure 5). While this location is not scheduled to be counted in 2025, an increase in truck traffic along the west and east locations of Dunstable Road and Ledge Road is assumed, based on the increase in truck volume on Ledge Road south of Dunstable Road.



*Figure 5. Graph of average daily truck percentage and count at Dunstable Road West of Ledge Road.*

### Route 40 East of Route 3 Northbound

The Route 40 east of Route 3 Northbound location was monitored in 2018, 2020, 2021, 2022, and 2023 at various intervals. The average truck percentage was the lowest of all locations at Rt-40 (Groton Rd) east of Rt-3 Northbound in 2018, at 2.1%. This truck volume corresponds to 199 average daily truck trips at this location. The average truck traffic peaked in 2022 with 17.6% truck volume, or 1,559 daily truck trips (Figure 6). These numbers correspond with an overall increase in vehicle traffic along Rt-40 (Groton Rd). Along with multiple other locations, a decrease in percent truck volume and count was seen in 2023, with only 4.8% truck volume, or an average of 488 daily truck trips. This

location will be counted in the 2025 traffic volume program, scheduled for the week of August 11. This location had been previously counted in 2024, registering an average truck percentage of 12%, or 827 average daily truck trips. While not directly off Rt-3 NB, Rt-40 (Groton Rd) west of Lynn Ave helps round out information about trucks accessing the complex at the end of Ledge Rd.

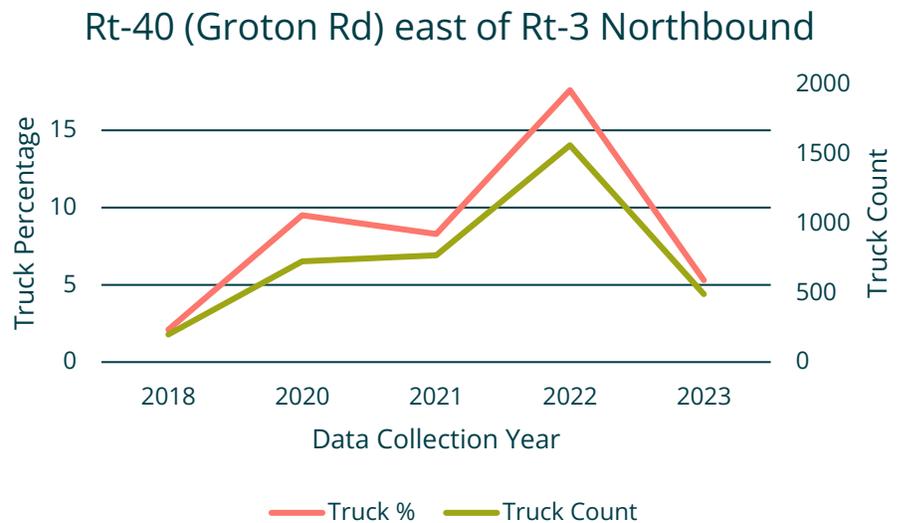


Figure 6. Graph of average daily truck percentage and count at Route 40 East of Route 3 NB.

### OPTIONS AND BARRIERS

At the Town of Chelmsford's request, in 2022 NMCOG explored several options for rerouting heavy vehicle traffic away from Ledge Road. Given the updated traffic volume data, these options are revisited below.

As a general recommendation, a review of the video traffic monitoring system set up by the Town of Westford within the Newport Materials property is warranted (Appendix 3). The system is installed to track both inbound and outbound vehicle counts at the intersection of Groton Road and Commerce Way. The video traffic monitoring system, along with a less intensive monitoring system without vehicle counts, is meant to ensure compliance with the established truck trip limitation. The Town of Westford last gave an update on vehicle counts from this monitoring system during a meeting with NMCOG, detailed in Appendix 3. Regardless of which solution the Town of Chelmsford and Town of Westford choose to pursue, a review of this system would ensure real time, accurate data regarding heavy vehicle traffic in the Newport Materials property.

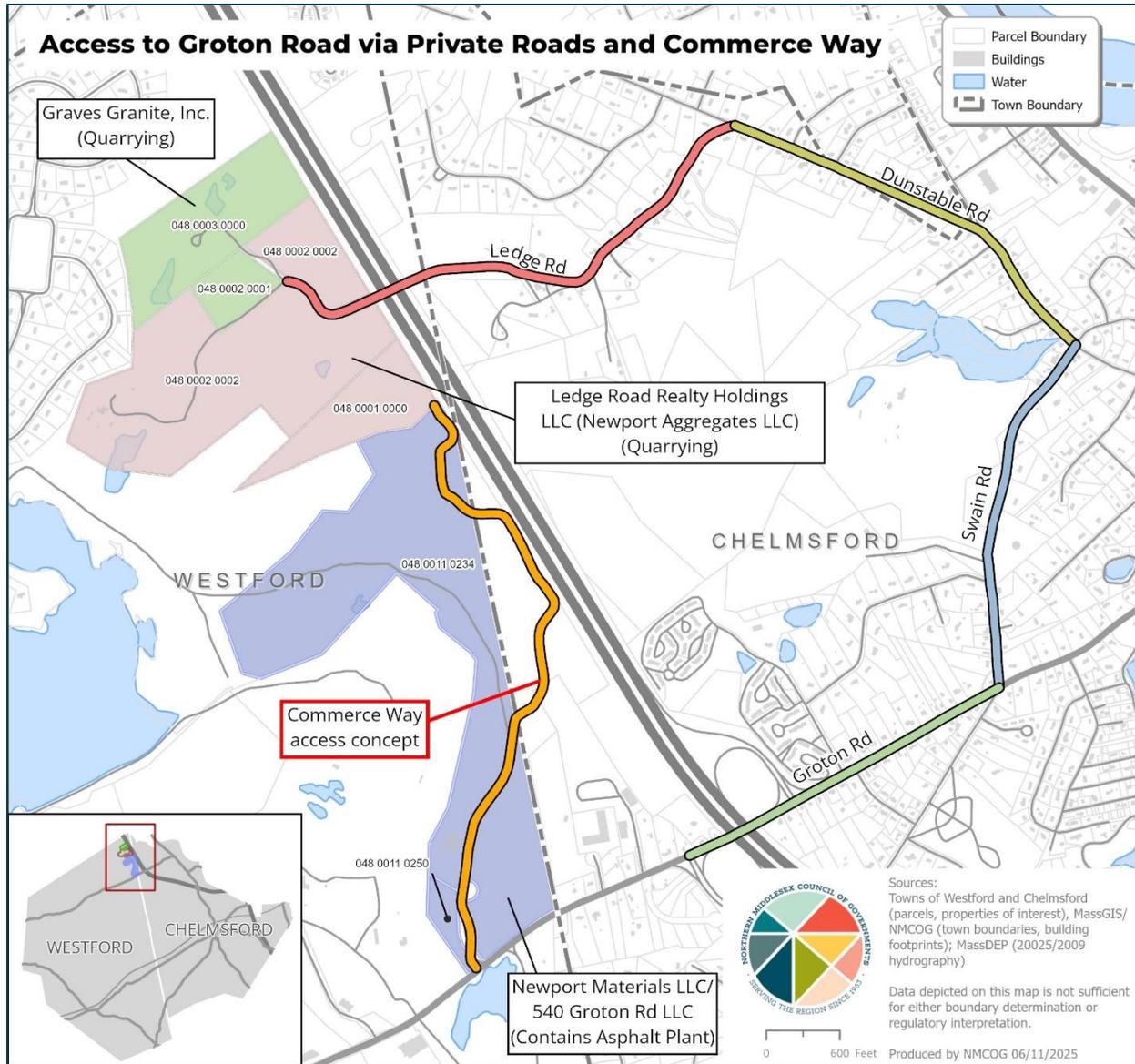
## **OPTION 1: NEW INTERCHANGE AT ROUTE 3 AND LEDGE ROAD**

### ***Option 1 Barriers: One-mile spacing requirement***

An interchange at Ledge Road at Route 3 does not satisfy MassDOT's one-mile spacing requirement for urban interchanges. The interchange spacing distance is measured from centerline to centerline of the intersecting crossroads. The spacing requirements for freeways are one mile in urban areas and two miles in rural areas. As mentioned in MassDOT's summary email on why a new interchange is not possible at this location, any new access ramps must connect to a public road only and must provide for all traffic movements. Ledge Road is not a public road in the vicinity of Route 3 and does not provide a connection to a public way on the west side of Route 3. Regardless of the source of funding, projects on the National Highway System (NHS) are required to be designed, constructed, operated, and maintained in accordance with Federal laws and regulations, and FHWA-approved directives, safety standards, design standards, and construction standards.

## **OPTION 2: USE OF NEWPORT MATERIAL INTERNAL ROADWAYS AND COMMERCE WAY**

Town of Chelmsford and Town of Westford could work together to move vehicles through Newport Materials property through Commerce Way to Groton Road and thereby to Route 3 (Map 2). The subject properties are located in Westford but are along the Westford/Chelmsford Town line, therefore both Towns would need to coordinate to find a solution for their residents and businesses.



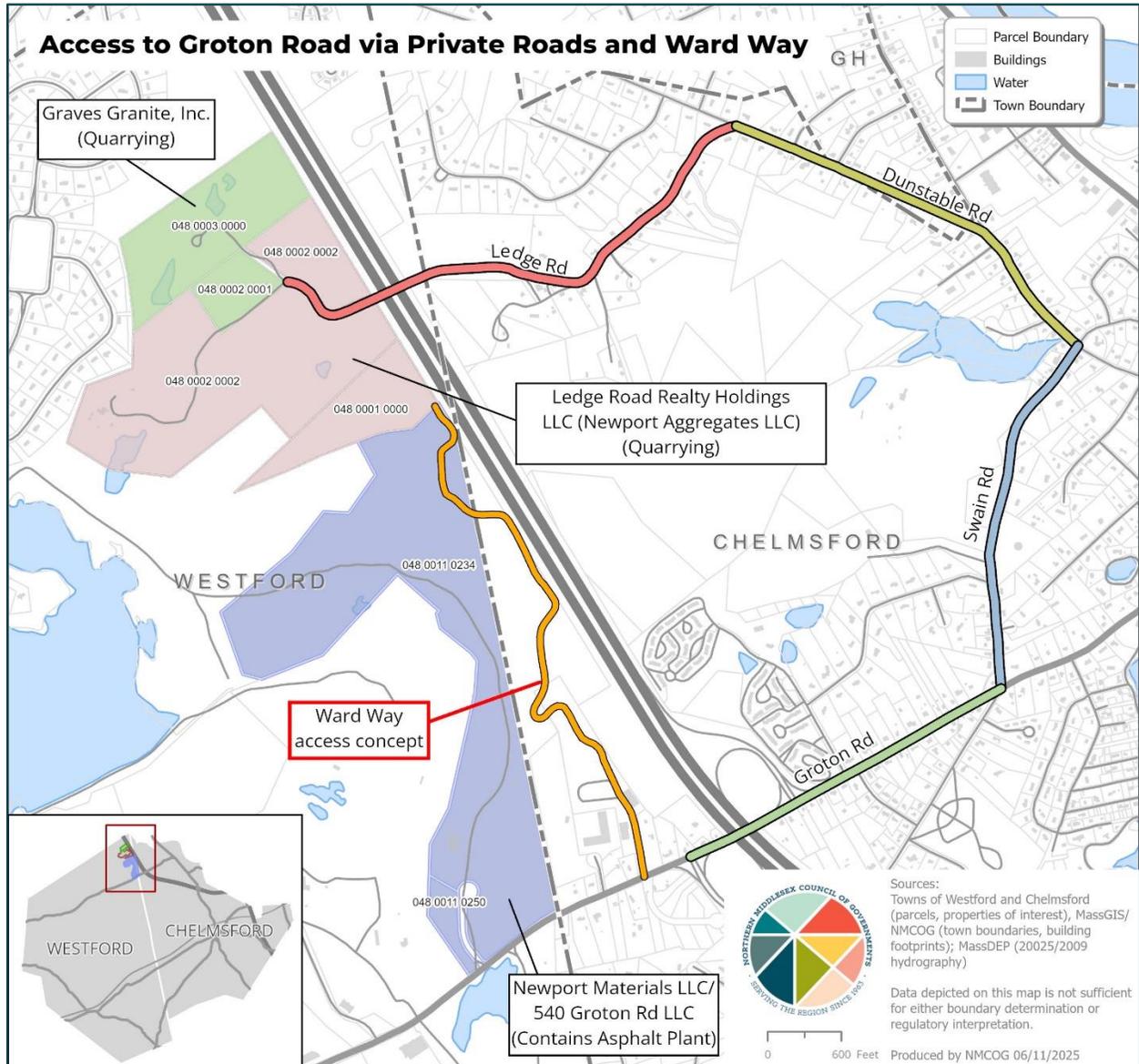
Map 2. Access to Groton Road via Private Roads and Commerce Way.

**Option 2 Barriers: Special Permit Conditions**

The special permit granted to Newport Materials allows the use of internal roads between subject property and other adjacent properties. These internal roads connect the quarry and the properties at the end of Ledge Road to Commerce Way and Ward Way. However, Commerce Way is a private road while Ward Way is blocked and not in use. Any changes in access at Groton Road and Commerce Way would likely require a change in the existing permit, which may involve land court as well.

**OPTION 3: ACCESS ROAD TO GROTON ROAD**

Provide Ledge Road businesses an access to Groton Road through Ward Way (Map 3), which could reduce truck traffic on Ledge Road.



Map 3. Access to Groton Road via Private Roads and Ward Way.

### Option 3 Barrier: Special Permit Conditions and Physical Barriers

The existing permit conditions do not allow the use of Ward Way as an access point to Groton Road. In fact, Ward Way is monitored and blocked with several physical barriers preventing the use of this roadway: earthen berms, sound barriers, jersey barriers, boulders, drainage control measures, and wooded areas. Quarterly inspections (excepting wintertime) are conducted to ensure that there are no new accesses developed.

#### **OPTION 4: IMPLEMENT PERMIT RESTRICTIONS ON BUSINESSES THAT ACCESS LEDGE ROAD**

In order to control and reduce the number of trucks using Ledge Road, Swain Road, and Dunstable Road, implement permit restrictions on the number of vehicles or restrict the hours the roadway is available for use by heavy vehicles.

##### ***Option 4 Barrier: Jurisdictional Issues***

The subject businesses under discussion are in Westford, thus not under Chelmsford's jurisdiction. Ledge Road, where the truck traffic has the most effect on residents, is in Chelmsford.

#### **SUMMARY**

This memorandum provided an assessment of the increased heavy vehicle traffic on Ledge Road, Dunstable Road and Swain Road in North Chelmsford, with an updated review of existing traffic conditions, potential solutions, and barriers to those alternatives. With assistance from NMCOG, the Towns of Chelmsford and Westford should review the alternative options and consider methods to improve the overall impact of truck traffic on Ledge Road and surrounding areas in North Chelmsford and East Westford. As part of an existing contract between MassDOT and NMCOG, NMCOG will continue to monitor traffic volumes and truck percentages in the area with the goal of providing traffic volume information and tracking changing conditions in Chelmsford and Westford.

## APPENDIX

### APPENDIX A - COMMUNITY DISCUSSIONS (From 2023 Memorandum)

At the beginning of this study (2022), NMCOG staff met with various stakeholders discussing existing issues in the area and identifying potential options to mitigate the heavy traffic issue in North Chelmsford. The discussions were aimed on finding alternative solutions or alternative routes to reroute the truck traffic on Ledge Road and surrounding areas. Alternate solutions discussed in these meetings include an interchange at Route 3 and Ledge Road, rerouting the truck traffic through internal roads like Ward Way and Commerce way, and implementing restrictions on businesses that access Ledge Road. The barriers to these alternate solutions and other considerations are discussed in detail below.

#### A1 NMCOG & TOWN OF CHELMSFORD

NMCOG met with Paul Cohen, Town Manager, and Christine Clancy, Director of Public Works from Town of Chelmsford to discuss the scope of the DLTA project. Participants in the meeting agreed that NMCOG would develop this assessment, outlining improvement options in the area and barriers to those options. Once complete, NMCOG would provide the study to the Town. There was a discussion on concerns such as funding availability, impact on environment due to presence of wetlands, and an issue in getting approval for constructing an interchange of Route 3, to essentially serve commercial properties. The group acknowledged the fact that this interchange, if constructed, could bring in more vehicles to the area.

**A1.1 Problem Statement:** The quarry owned by Newport Aggregates has ramped up operations over the last two years, causing significant increases in the number of heavy vehicles using Ledge Road, Dunstable Road and Swain Road, which was termed as the main reason for this truck traffic problem.

Rerouting trucks from quarry through Ward Way at Commerce Way to Newport Aggregates, which can connect to Ledge Road, where UPS is a tenant was highlighted as a possible option.

The various options discussed were to write a letter to the Chelmsford Select Board Chair Virginia Crocker Timmins and conduct a Feasibility Study to identify barriers, if necessary. A letter was sent to Select Board Chair Virginia Crocker Timmins outlining updates on NMCOG's activities regarding Ledge Road and the surrounding areas of North Chelmsford.

**A1.2 Concerns:** Concerns raised related to the truck traffic are speeding, dust and the increase in percentage of truck traffic from 10% to 30% on Swain Road North of Groton Road.

#### A1.3 Update to Chelmsford Select Board

NMCOG provided an update on activities to the Chelmsford Select Board in June 2022 regarding the Ledge Road and the surrounding area. NMCOG awarded funding to the Town of Chelmsford to conduct a study of the issues in the area through the region's DLTA program. Since that award, NMCOG has collected traffic volume data, adding to the database of volumes that our agency has collected for the Town over the past six years. This data collection effort includes the monitoring of

truck volumes using the roadways in and around Ledge Road, including Dunstable Road, Swain Road and Groton Road. NMCOG presented a summary of the monitoring efforts to the Town for review.

#### **A1.4 Letter from Westford Select Board to Chelmsford Select Board**

Per the letter by Westford Select Board, the truck traffic problems that Chelmsford is facing is not unique to Chelmsford. Westford has also experienced a similar increase in truck traffic. The Westford Select Board states that increases in truck traffic on Ledge Road are due to the lack of alternative access roads. The letter concludes by affirming that Newport Aggregates is one of the businesses that is attributed to an increase in truck traffic on Ledge Road. However, this traffic is not related to the nearby Newport Materials asphalt plant as the quarried materials are directly transported to the asphalt plant through internal roads.

#### **A1.5 Letter from Congresswoman Trahan's office to NMCOG**

NMCOG received a letter from Congresswoman Lori Trahan's office in February 2022 requesting assistance in addressing the truck traffic concerns in the Route 40/Ledge Road area in the Town of Chelmsford (See Appendix). In the letter, Congresswoman Trahan points out that there has been an increase in the volume of truck traffic in the past two years due to the opening of the asphalt plant at the Westford town line and the expansion of the operations at the adjacent quarries. Concerns pointed out in the letter are – 1. Continuous flow of trucks through the narrow roadways accompanied with noise; 2. Safety concerns for school children, other pedestrians, and motor vehicle operators; 3. Repeated spills of crushed stone and bituminous concrete products along Groton Road and adjacent roadways. The letter outlines about exploring potential options to mitigate the issue – 1. An additional interchange with US Route 3; 2. Alternate routes; 3. Possible truck exclusion routes; 4. Other traffic calming alternatives.

#### **A2 MEETING WITH MASSDOT REGARDING POTENTIAL INTERCHANGE**

NMCOG staff met with MassDOT District 4 to discuss an option to build a new interchange near Ledge Road, providing direct access to Route 3. Even though Route 3 is not an interstate highway, MassDOT adheres to Federal Highway Administration (FHWA) interchange justification criteria<sup>1</sup> and recommends exhausting alternatives prior to consideration of a new interchange. It was noted that an interchange at this location would violate the 1-mile spacing requirement for interchanges in urban settings. The group agreed that a proposal for an interchange should benefit the public, while in this case, it is mainly a private developer. Public funding for an interchange could be challenging when the direct beneficiary is a private developer.

For projects to be eligible for inclusion on the Regional Transportation Improvement Program (TIP) or State Transportation Improvement Program (STIP), the project must be presented to and approved by the MassDOT Project Review Committee (PRC). MassDOT District 4 believes that a

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<sup>1</sup> "INTERSTATE SYSTEM ACCESS INFORMATIONAL GUIDE". AUGUST 2010.  
<https://www.fhwa.dot.gov/design/interstate/pubs/access/access.pdf>

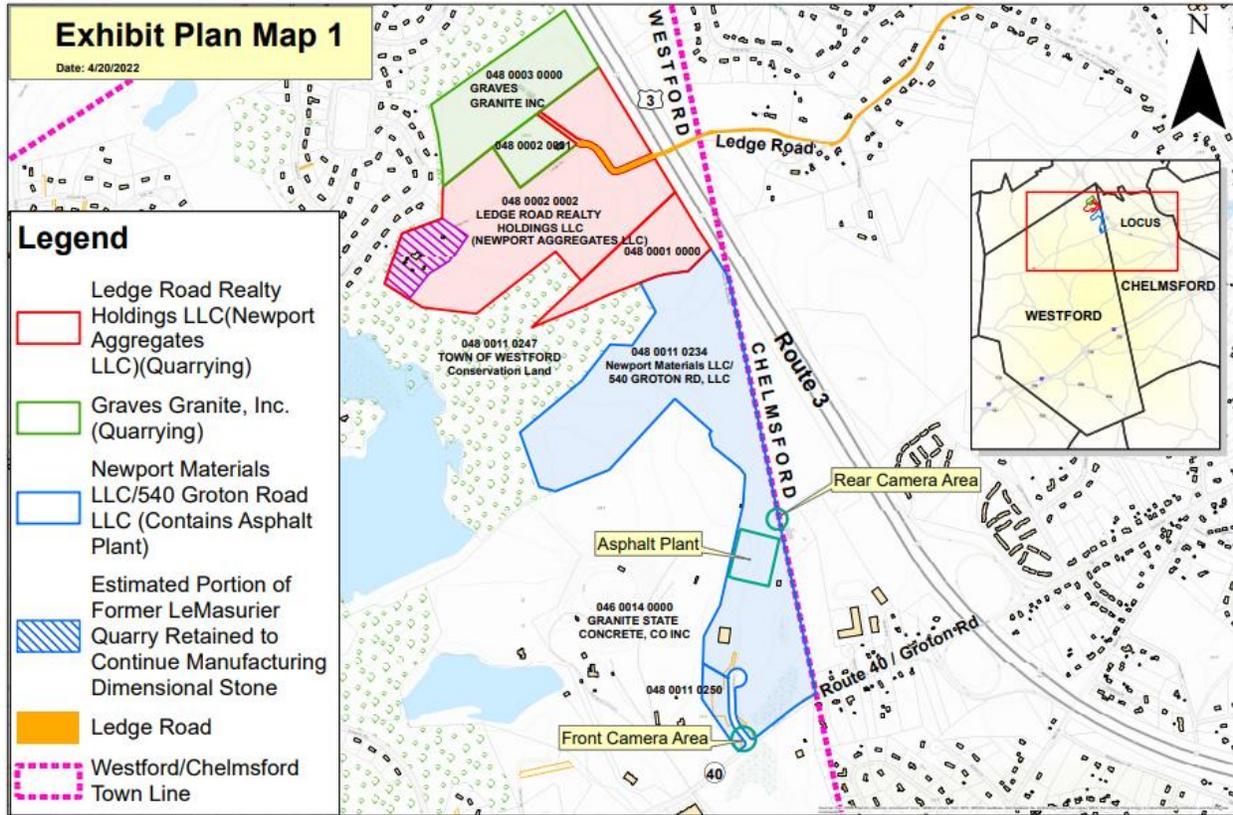
project to include a new interchange at Ledge Road would not be approved by the PRC, due to both design and potential adverse impacts of the project.

MassDOT concluded that this was a local issue between the Towns of Chelmsford and Westford and if any options were to be considered, it would need buy-in from both communities.

### **A3 MEETING WITH TOWN OF WESTFORD**

Transportation Planners from NMCOG met with Jeffrey Morrissette, Director of Land Use Management in the Town of Westford, to discuss the truck traffic issue in detail. When asked if criteria were used to determine the 400 truck trips per day limit for Newport Materials, NMCOG staff learned that the allowable truck trips were determined based on the discussions between Town of Westford and Newport Materials regarding the minimum number of truck trips necessary to carry out activities in their properties. Jeffrey Morrissette shared a map (Map 4) showing the location of properties and the proximity to Route 3. The businesses in Westford, located at the end of Ledge Road, are non-conforming pre-existing businesses that are not subject to current zoning regulations. When looking at the difference in distance of directing truck traffic directly to Route 3 via Groton Road versus Commerce Way to Route 3 through Groton Road (Route 40) is approximately 0.34 mile. If trucks were to access Newport Materials or the asphalt plant from Ledge Road, the route would be approximately 2.2 miles from the town line to Route 3. Westford staff stated that vehicles accessing and egressing from their properties are not using the longer route. The asphalt plant does not use Ledge Road access because Newport Materials is currently under their permitted number of daily trips. The Town of Westford went through Land Court to enforce permit restrictions for Newport Materials and Town of Chelmsford did not participate in these proceedings. Westford remains open to meeting with Chelmsford to discuss further options.

Within the Newport Materials property, The Town of Westford has set up a video traffic monitoring system to verify truck and vehicle counts. This system tracks both inbound and outbound vehicle counts at the intersection of Groton Road and Commerce Way to ensure compliance with the trip limitation and notifies the Town of Westford when this count exceeds the permitted counts. The Town of Westford, during their meeting with NMCOG, confirmed that the vehicle counts haven't exceeded the limitation as of the date of the meeting. In addition, Newport Materials provides monthly truck monitoring logs to Westford as a supplement to the video traffic monitoring system. Additionally, there is also less intensive video monitoring (without vehicle counts) about 500 feet north of the asphalt plant.



Map 4. A Map of the properties in Westford and location of ledge road. Source: Town of Westford.

Map 4 highlights the properties in Westford, Westford/Chelmsford Town line and the location of Ledge Road. There are two cameras located at the front entrance at Route 40/Groton Road and a rear camera at the end of Commerce Way. Since access through Ward Way is not permitted, there are barriers in place that are checked a few times of year by Westford.