



## Evaluation of “One and Two-Way Street Reconfiguration” Petition

Tyson Road  
April 19, 2023

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Petition:	Councilor Sean M. Rose request Tyson Rd. be made a one-way street, flowing eastbound from West Boylston St. to Burncoat St. (Amended January 18, 2023 from flowing westbound from Burncoat St. to West Boylston St.)  # 8m CC August 9, 2022
Scheduled Committee Hearing:	April 26, 2023 Traffic & Parking Committee, Item 5a
Prepared by:	Todd M. Kirrane., Assistant Director

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### Summary

Tyson Road suffers from cut-through traffic associated primarily with trips between I-190 and commercial areas of West Boylston. While overall traffic volumes and travel speeds are relatively modest, these characteristics in combination with the specific design features of the roadway are more impactful than would typically be expected to the abutting residents.

Because there are few routing choices competitive with Tyson Road, which offers a direct connection between I-190 and developed areas external to the city, effective solutions to reduce traffic and protect against speeding are elusive. Traffic calming measures such as speed humps would ensure reasonable speeds on flat portions of the street, but would not safeguard against speeding on steep grades nor reduce traffic volumes significantly.

Converting all or a portion of the street to one-way would reduce traffic volumes, but would also have negative consequences. Residents would experience increased travel times resulting from out of direction travel and emergency response times would similarly increase. One-way operation may increase speeding, although this . It is also likely that some trips from Tyson Road would be displaced to parallel local streets such as Eustice or Anthrop Street.

If one-way operation is implemented, westbound travel is recommended as being both more effective and less disruptive. A short two-direction segment should be retained near West Boylston St for access to commercial businesses regardless of the direction recommended.

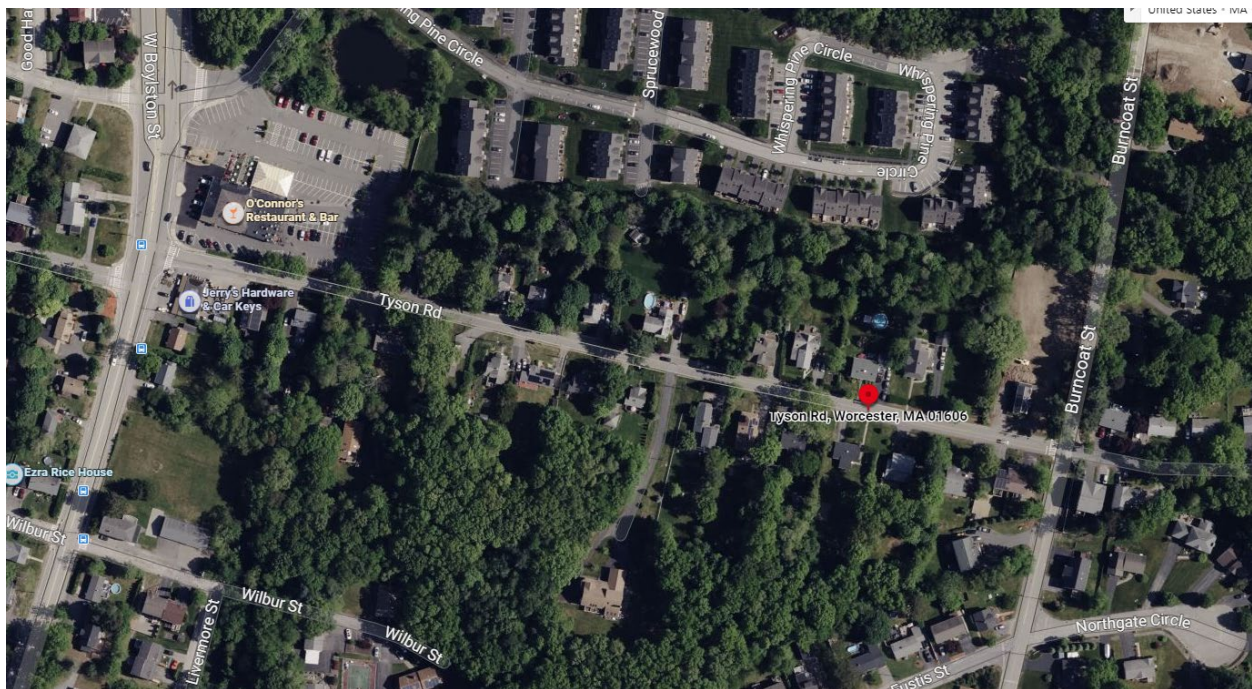
### Introduction

The petitioners have requested altering Tyson Rd from a two way street to a one-way street to address safety concerns caused by excessive cut-through traffic, particularly large commercial

vehicles. The petition is currently advertised for one-way operation in the eastbound (uphill) direction.

Tyson Road is classified by the Massachusetts Department of Transportation (MassDOT) as a Local Roadway under City Jurisdiction. The roadway is approximately 26 feet curb to curb, generally runs in an east-west direction, and provides a residential connection between West Boylston St. and Burncoat St. The road includes two-way motor vehicle operations with 1 general purpose travel lane in each direction. While on-street parking is not prohibited through ordinance, the narrowness of the travel lanes makes it not possible to park without blocking a travel lane. The statutory (unposted) speed limit is 30 mph. Land use along this section is single family residential with commercial at the intersection with West Boylston St. To the east of the Worcester/ West Boylston Line, there is a significant amount of industrial and commercial type uses. It is apparent that these uses generate various types of traffic including trucks that use Tyson Road to access I-190 via West Boylston Street. There is a sidewalk on the northern curb line from West Boylston to 60 feet east of West Boylston St.

The profile of Tyson Road is rolling, going from west to east the road begins roughly flat transitioning to a steep incline before transitioning to a sag curve before the tangent slope crests further east. From this point the roadway begins to roll slightly from a crest to sag and back again before transitioning to a relatively flat tangent when meeting the intersection of Burncoat Street. Given how some of the roadway has some steep sections, one could expect that trucks using the roadway could generate more noise (engines accelerating/ decelerating) than a typical car – especially as they travel uphill eastbound.



**IMAGE 1: AERIAL VIEW OF LOCATION**

## **Existing Conditions**

### ***Traffic Volume***

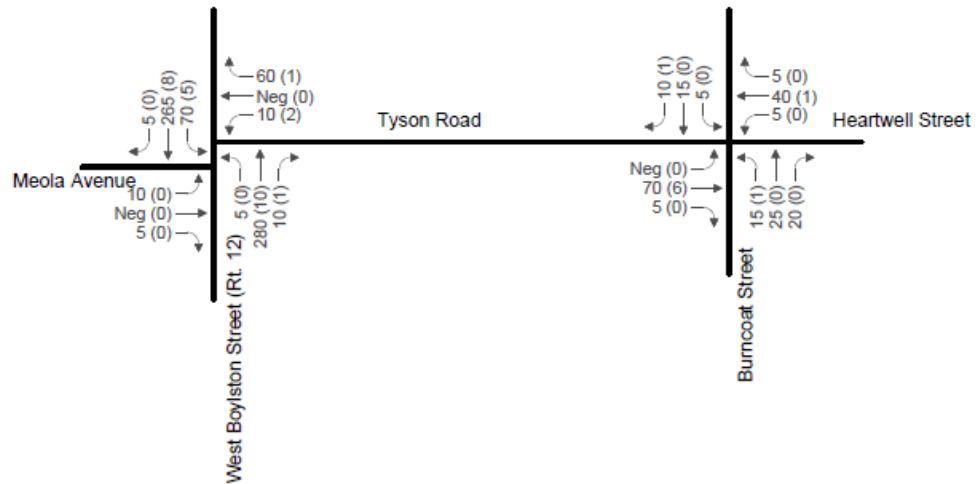
A consultant (VHB) previously hired by the City conducted Turning movement counts (TMC's) on Wednesday April 7, 2021 between 7:00am-9:00am and 4:00pm and 6:00pm. In addition, Automatic Traffic Recorder (ATR) counts were collected for Tyson Road on Tuesday, April 6, and Wednesday April 7, 2021.

The ATR data showed an Average Daily Traffic (ADT) volume of 2,500 vehicles with heavy trucks making up 4.6% of those vehicles. The directional distribution/ split of traffic indicated 53% of all vehicles traveled in the westbound direction. During the morning AM peak hour 56% (80 vehicles) are traveling westbound and 44% (65 vehicles) are traveling eastbound. During the evening peak hour 33% (85 vehicles) are traveling westbound and 67% (170 vehicles) are traveling eastbound. The peak hour turning movements are shown in Image 2 below.

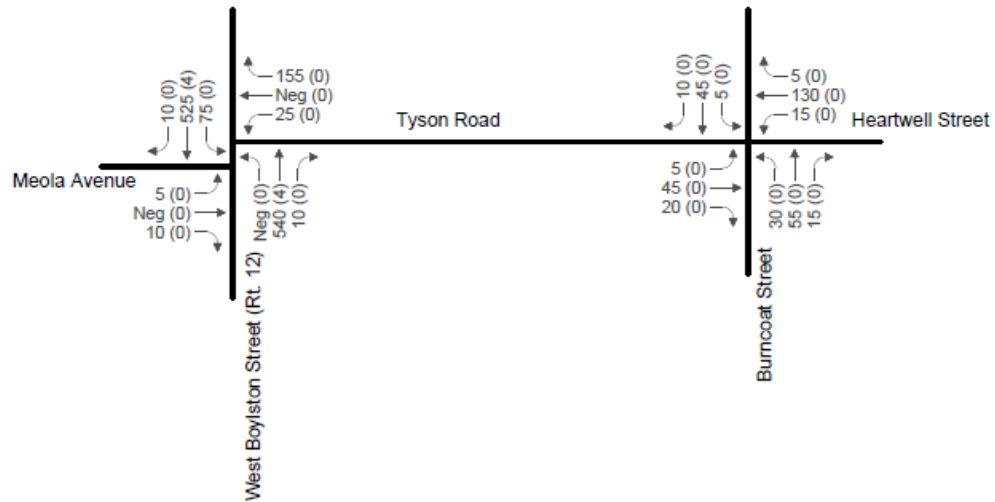
DTM staff utilized the Streetlight Insight software platform to estimate updated volume data. The bidirectional average daily traffic volume reported is 1970 vehicles per day, which suggests a moderate reduction in traffic volumes during the pandemic. The eastbound direction accounted for 48% (951 vehicles) of daily volume while the westbound direction accounted for 52% (1019 vehicles) of daily volume.

Although the roadway is constructed and classified as a Local Roadway, the traffic volumes and travel patterns described later demonstrate that it is being used as a Collector Road to carry traffic between two arterials (West Boylston/i190 and Burncoat/Commercial development to the east). This is problematic in that it's design is not suitable for use as a collector, with steep rolling grades, no pedestrian accommodations, and residences located near to the street edge without buffers such as street trees or onstreet parking. Additionally, lane markings establishing 12+ ft wide lanes encourage high travel speeds.

Weekday Morning Peak Hour (7:45AM-8:45AM)



Weekday Evening Peak Hour (4:30PM-5:30PM)



Total Volume (Heavy Vehicle Volume)  
Neg = < 5 vehicles

## IMAGE 2 SUMMARY OF PEAK HOUR TURNING MOVEMENT COUNTS

### Truck Traffic

As part of the April 2021 data collection by VHB, during the 4 hour turning movement counts, the activity of large trucks (larger than extended base and dual axle box type truck) was:

- Most larger vehicles using the roadway were buses and 2 axle, 6-tire trucks. The buses were identified as yellow school buses. All but one of them were traveling westbound regardless of the time of day.
- Of the 3+ axle trucks, two were 5-axle and traveled the roadway around 7am from West Boylston Street where they turned left on to Tyson Road, likely from the highway (I-

190). These trucks travelled eastbound on Tyson Road through to Hartwell Avenue, but it was unclear if they were tied to any of the local businesses in West Boylston.

- A 4-axle truck was observed during the 9 am hour, which approached from the south on West Boylston Street to travel eastbound on Tyson Road. This truck appeared to have the logo for the Lowell Corporation, a company on Hartwell Street in West Boylston.
- For the longer 2-axle, 6-tire vehicles there was a significant number that used Tyson Road in both directions a couple of times each hour during the four-hour data collection period. These were work/utility vans and appeared to be most of the trucks. Delivery style trucks were also observed including a W.B. Mason truck and open-aired landscaping trucks.

The directionality of the observed trucks as compared to the requested directionality of the request means that these trucks would still make the majority of their trips using Tyson Road since they are traveling in the eastbound direction. The vehicles that would be affected and unable to utilize the same road are the school buses which were identified as primarily traveling westbound.

### ***Speed Data***

As stated previously, Tyson Road is under the statutory (unposted) speed limit of 30 mph for a thickly settled and business district. This statutory speed limit is established under Massachusetts General Laws Chapter 90, Section 17 and per the Massachusetts Department of Transportation's "Procedures for Speed Zoning on State Highways and Municipal Roads" this statutory speed limit is not allowed to be posted except for yellow warning signs when there is evidence of violations and there is a need to remind motorists of the statutory speed limit in the immediate area. In April 2021 the consultant recorded an 85th Percentile Speed (the speed that 85% of all vehicles traveling at or below) of 35 mph. In reviewing the updated speed data from Streetlight Insight software platform, the Average Speed is 21 mph and the 85th Percentile Speed is 27 mph. Though the traffic volumes are high, the updated Average Speed and the 85th Percentile Speed are below the statutory speed limit. There may be geographically specific instances of speeding that are not identified by the more recent StreetLight data, such as on the steeply graded segment. Additionally, a small share of trips – less than 2% -were identified as traveling more than 10 mph over the statutory speed.

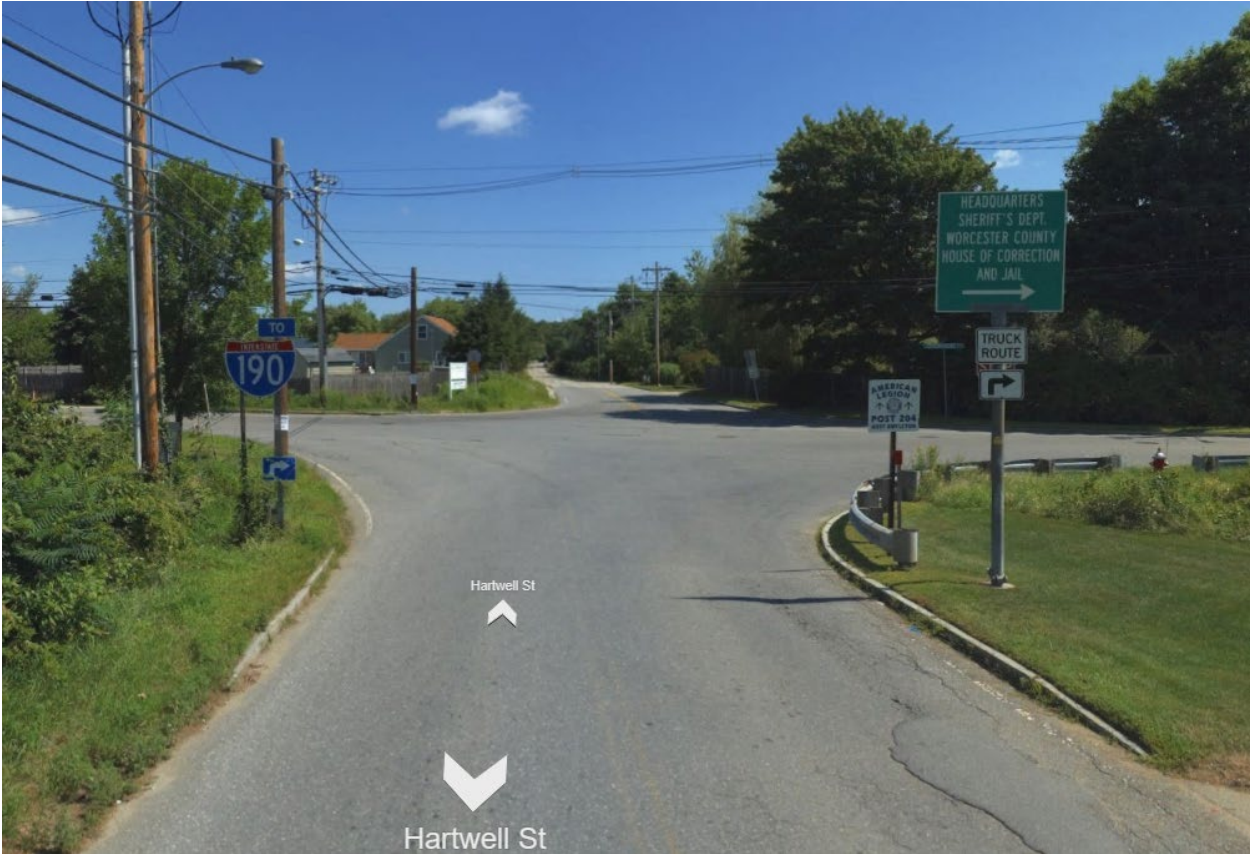
### ***Cut-Through Trips***

There is a designated truck route for the industrial development that would take vehicles to/from I-190 and I-290 via Shrewsbury St (West Boylston) and Briar Lane (Worcester) to Mountain Street East. Images of the truck signage installed for the industrial park is below. However, this route is significantly longer than using Tyson Road and the length difference to access I-190 in particular is likely the reason for the use of Tyson Road.

Staff conducted two studies to determine the origin and destination of vehicles traveling on Tyson Road. The first study, an origin/destination study looked at vehicles entering the area from Hartwell Street. Image 5 shows the immediate area on either side of Tyson Road and demonstrates that the vast majority of vehicles are traveling toward I-190. The second study was a Top Routes study using to determine where vehicles entering Tyson Road from the industrial development are traveling to as they leave the site. Images 6 and 7 demonstrate that

the vast majority are using Tyson to access I-190 and then travel to destinations to the north, south, and west of the site. The thicker the line the more vehicles traveling on that street segment.

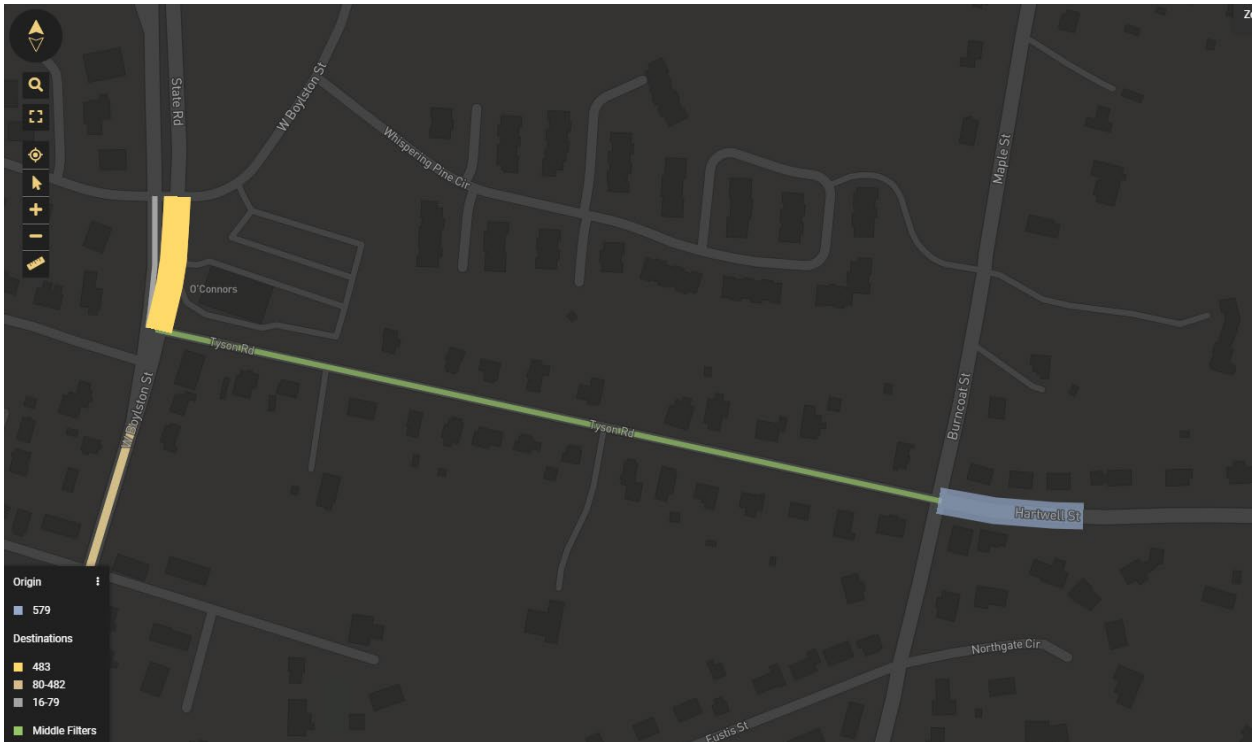
It is clear from all data sources that Tyson Road experiences a large number of cut-through traffic related to the industrial park to the west of the neighborhood in the Town of West Boylston that it was not designed and built to handle as a local roadway with no sidewalks.



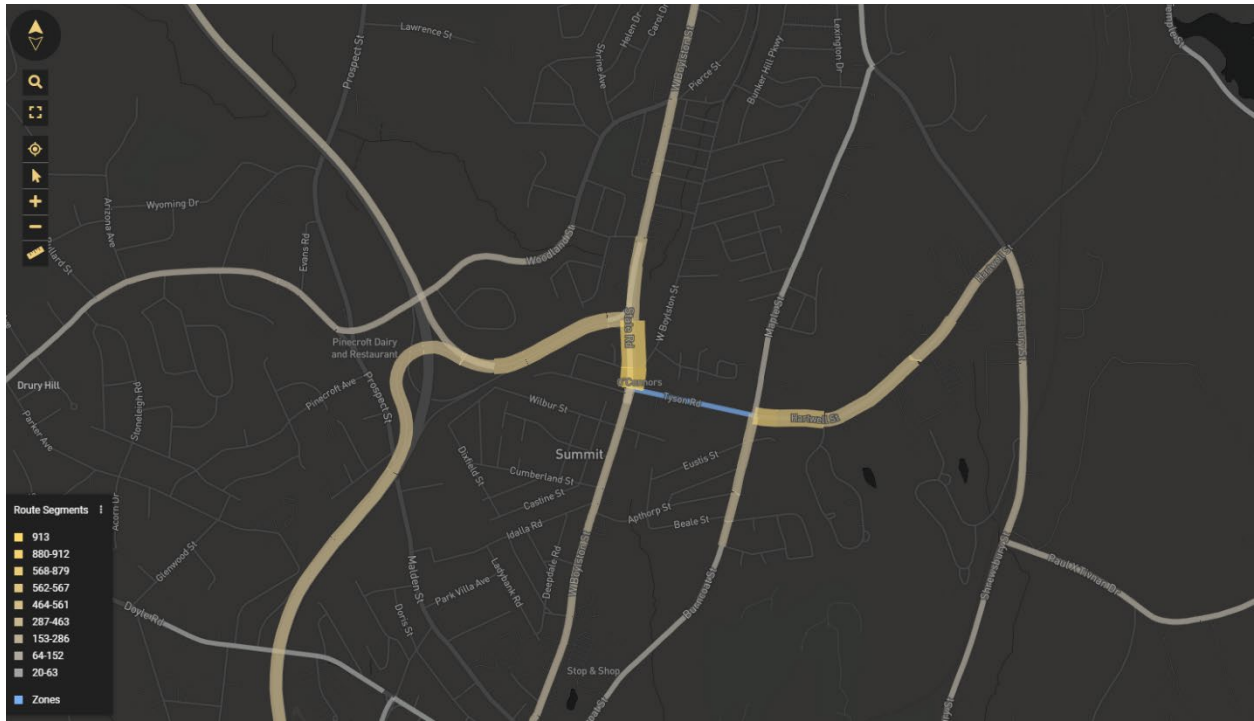
**IMAGE 3 TRUCK ROUTING HARTWELL ST AT SHREWSBURY ST IN WEST BOYLSTON**



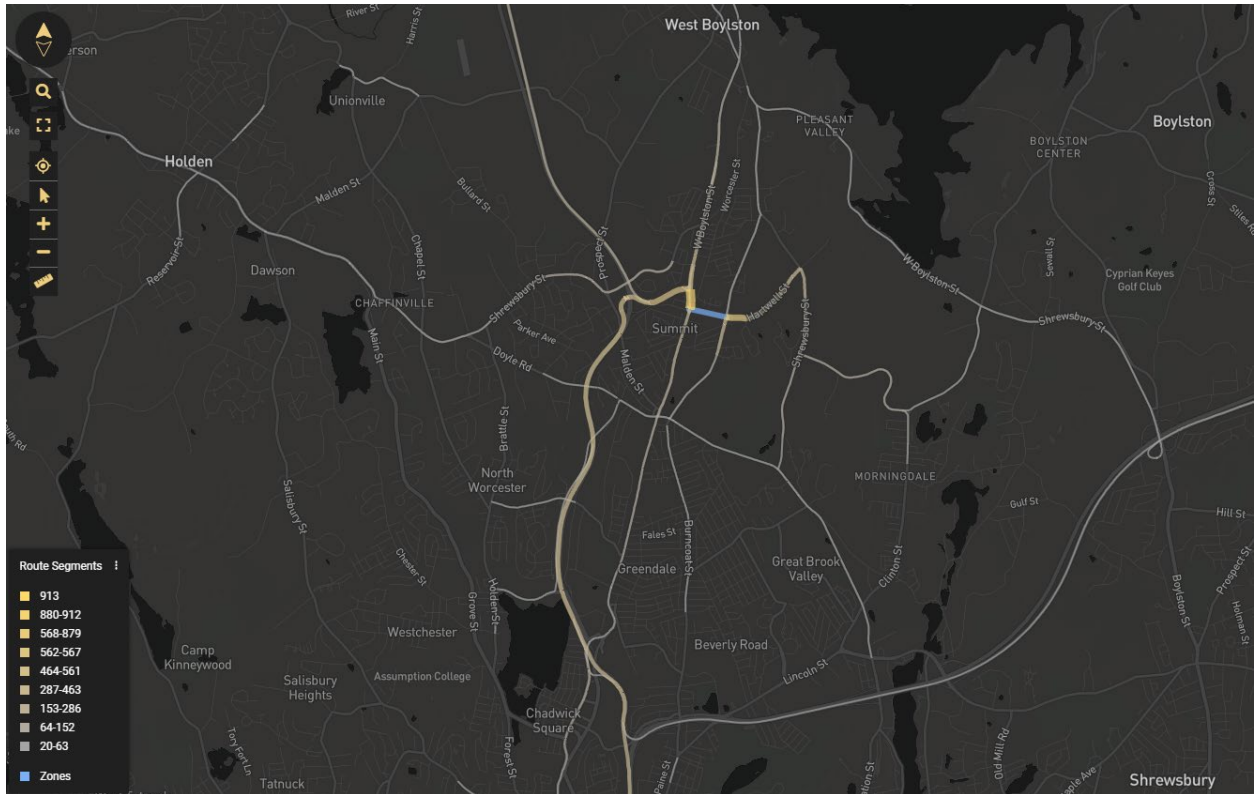
**IMAGE 4 TRUCK ROUTING BRIAR LN AT MOUNTAIN ST E IN WORCESTER**



**IMAGE 5 ORIGIN/DESTINATION STUDY FOR VEHICLES ENTERING FROM INDUSTRIAL AREA IN WEST BOYLSTON**



**IMAGE 6 TOP ROUTES FOR VEHICLES TRAVELING THROUGH TYSON ROAD**



**IMAGE 7 TOP REGIONAL ROUTES FOR VEHICLES TRAVELING THROUGH TYSON ROAD**

***Review of Proposed One-Way Street Configuration***

The most effective tool available to reduce the amount of vehicles traveling on Tyson Road is by changing the roadway network and restricting travel to one way. This c

There are benefits and drawbacks to each direction – but either will result in some benefits including a decrease in amount of traffic, availability of residential use of the on-street parking



supply, and likely easier for pedestrians and cyclists to walk/bike safely on the road. Potential downsides to one-way conversion include increased travel time for residents due to out of direction travel, increased emergency response times, and potential difficulty navigating steep grades during inclement weather. It is also likely that some trips from Tyson Road would be displaced to parallel local streets such as Eustice or Anthorp Street.

The initial request by the petitioner was to allow motor vehicle travel in the westbound direction. The benefits of this proposed direction is that the profile of Tyson Road is generally the downhill movement in this direction, the noise from larger vehicles would likely be reduced, would lead to a larger reduction in observed truck traffic, and would allow the observed school buses to continue along their route. The negative is that it would lead to the least reduction in total cut through traffic generated during the evening peak hour and would prohibit access to the parking lot for the hardware store at the southeast corner with West Boylston Street from West Boylston Street. This was a concern expressed at an earlier public meeting. This could be mitigated by having the first 130 feet east of West Boylston Street be two-way to allow access to the parking lot without having to drive around the entire block. This treatment exists in the City and region.

The amended request by the petitioner, to allow motor vehicle travel in the eastbound direction, was largely made at the request of those residents and business owner who attended the previous public meeting. The benefit of this approach is that it allows for access into the hardware store parking lot and will result in the greatest reduction in overall cut through traffic on the street. The negative of this approach is that it will not reduce the largest observed number of trucks traveling on the road, will disrupt the observed school bus routes, will require all vehicles to climb the hill – which may be problematic in the winter months, and will likely push the non-truck cut-through traffic to the neighboring street of Eustis, Darrow, Cliveden, and Apthorp to make the desired connection to West Boylston Street.

**Recommendation:** Based on the data collected and the impacts of the proposed one-way movement on both Tyson Road and adjacent residential streets, DTM recommends westbound operation if the Committee were to recommend conversion to one-way travel, except for a short segment near West Boylston Street:

- Make Tyson Road one-way in the west bound direction from Burncoat Street to 130 feet east of West Boylston Street

If the Committee instead favors eastbound direction of travel, the same segment should remain two-way.

Additionally, DTM staff recommends that the Council consider a petition to study the implementation of a Truck Exclusion on Tyson Road and if it meets the requirements in the Massachusetts amended Manual on Uniform Traffic Control Devices to petition the Massachusetts Department of Transportation for permission to impose the exclusion.