

Old Colony Planning Council



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TECHNICAL MEMORANDUM

Date: April 6, 2018

To: James Purcell, Avon Interim Town Administrator

From: Charles Kilmer, AICP, Assistant Director / Transportation Program Manager

A handwritten signature in blue ink, appearing to read 'CK', is placed to the right of the 'From:' field.

Subject: Proposed Heavy Commercial Vehicle Exclusion (HCVE) Zones on Page Street, West High Street, and Pond Street in Avon

Per the Town's request, the Old Colony Planning Council has completed an assessment of traffic conditions on Page Street, West High Street, and Pond Street, with specific focus on heavy commercial vehicle traffic through residential areas on these roadways. This traffic study was completed through the Old Colony Metropolitan Planning Organization's Local Highway Technical Assistance Program.

Traffic Volumes, Prevailing Speeds, and Heavy Vehicles

Traffic counts along the proposed Heavy Commercial Vehicle Exclusion (HCVE) routes were collected using automated traffic recorders during the week of October 2nd through October 6th, 2017. Table 1 summarizes the data collected, including average daily weekday traffic volumes, travel speeds, and the percentage of heavy vehicles in the traffic stream.

Proposed HCVE Zones and preferred Truck Route

Heavy Commercial Vehicle Exclusion zones are proposed for Page Street and West High Street (a single continuous roadway) between Bodwell Street and North Main Street (Route 28), and Pond Street between Bodwell Street and West Main Street. The proposed Page Street / West High Street HCVE zone is 1.36 miles in length, while the proposed Pond Street HCVE zone is 0.63 miles in length.

- **Preferred Truck Route:** The preferred route for through moving heavy commercial vehicles is Bodwell Street (through the Avon Industrial Park) from Page Street to Pond Street; Pond Street from Bodwell Street to Harridan Boulevard; Harrison Boulevard from Pond Street to West Main Street; and West Main Street from Harrison Boulevard to Route 28. The total length of the preferred truck route is 3.14 miles, resulting in up to 1.78 additional miles of travel for through moving heavy commercial vehicles.

Table 1: Existing Traffic Volumes, Speeds, and Percentage of Heavy Vehicles

	Average Weekday Volume	Average Speed	85th Percentile Speed	Posted Speed Limit	% heavy Vehicles
Page Street, north of Pond Street	4,636	21 MPH	35 MPH	35 MPH	6.0%
Page Street, west of West High	8,299	31 MPH	40 MPH	35 MPH	9.0%
Page Street, east of Bodwell Street	8,251	24 MPH	37 MPH	35 MPH	9.1%
Page Street, at Stoughton Town Line	12,259	24 MPH	38 MPH	35 MPH	18.8%
Pond Street, east of Page Street	6,190	20 MPH	32 MPH	35 MPH	10.0%
Pond Street, east of Bodwell Street	9,844	26 MPH	38 MPH	35 MPH	8.5%
West High Street, east of Page Street	8,990	25 MPH	38 MPH	35 MPH	9.7%
Bodwell Street, north of Pond Street	7,666	25 MPH	38 MPH	35 MPH	24.2%
School Street, east of West Main Street	346	19 MPH	30 MPH	20 MPH	9.1%

Massachusetts Warrants for Heavy Commercial Vehicle Exclusion Zones

The 2012 Massachusetts Amendments to the 2009 Manual on Uniform Traffic Control Devices prescribed the following warrants for consideration of a Heavy Commercial Vehicle Exclusion (HCVE) zone.

- A. A volume of heavy commercial vehicles, which usually is in the range of five (5) to eight (8) percent, reduces the utilization of the facility and is cause for a substantial reduction in capacity or safety.
- B. The condition of the pavement structure of the route to be excluded indicates that further repeated heavy wheel loads will result in severe deterioration of the roadway. (Subject to Department review)
- C. Notwithstanding the foregoing, in certain instances where land use is primarily residential in nature and a municipality has requested exclusion only during hours of darkness, a specific night exclusion may be granted.

The percentage of heavy vehicle traffic on Page Street, West High Street, and Pond Street satisfied the warrant for consideration of a Heavy Commercial Vehicle Exclusion.

Physical Characteristics of Affected Roadways

The proposed HCVE zones on Page Street, West High Street, and Pond Street are all functionally classified as Urban Major Collectors, while the preferred truck route on West Main Street, Harrison boulevard, Pond Street (between Harrison Boulevard and Bodwell Street), and Bodwell Street are all functionally classified as Urban Minor Arterials.

- **Page Street / West High Street:** Page Street and West High Street are two-lane roadways with 12 foot wide travel lanes in each direction, separated by a painted double yellow line. Shoulders are narrow or non-existent along the roadway. Both streets are under the jurisdiction of the Town of Avon.
- **Pond Street:** Pond Street is a two-lane roadway with 12 foot wide travel lanes in each direction, separated by a painted double yellow line. The roadway contains sidewalks, but does not include any shoulders. Pond Street is under the jurisdiction of the Town of Avon.
- **Bodwell Street:** Bodwell Street is a two-lane roadway with 12 to 14 foot wide travel lanes in each direction separated by a painted double yellow line, narrow shoulders on each side of the roadway, and sidewalks on at least one side of the roadway. Bodwell Street is under the jurisdiction of the Town of Avon.
- **Harrison Boulevard:** Harrison Boulevard is a two lane roadway with 12 foot wide travel lanes in each direction, separated by a jersey barrier. Each side of the roadway contains a shoulder. Harrison Boulevard is a limited access highway, and does not have any sidewalks. Is under the jurisdiction of the Massachusetts Department of Transportation.
- **West Main Street:** West Main Street is a two lane roadway with 12 foot travel lanes in each direction separated by a painted double yellow line, and a sidewalk on at least one side of the roadway. West Main Street is under the jurisdiction of the Town of Avon.

Zoning and Land Use on Affected Roadways

Please see attached zoning map for zoning along the proposed HCVE and preferred truck routes. Development along Page Street and Pond Street is primarily single home residential, while the preferred truck route is a mix of industrial development along Bodwell Street, a limited access roadway with minimal development along Harrison Boulevard, and a mix of residential and commercial on West Main Street.

Existing Traffic Controls

Most of the significant intersections (Route 28 at East and West High Street; Route 28 at West Main Street; West Main Street at Harrison Boulevard; Harrison Boulevard at Pond Street; and Bodwell Street at Page Street) along the preferred truck route are signalized intersections. West Main Street at Pond Street, and Pond Street at Bodwell Street are un-signalized, STOP sign controlled intersections. A planned highway improvement project will add capacity to the intersection of Harrison Boulevard at Pond Street, and the section of Pond Street between Harrison boulevard and Bodwell Street/

Conclusion

These proposed heavy commercial vehicle exclusion zones and alternate truck route were identified as through a collaborate effort with Avon town officials as an option for reducing impacts from heavy vehicles in residential areas on Page Street, West High Street, and Pond Street in Avon.. It is ultimately the responsibility of the Town of Avon to identify the preferred option for their communities, and to proceed forward with requesting these Heavy Commercial Vehicle Exclusion Zone Permits from MassDOT, as appropriate.

In the Appendix to this Technical Memorandum, please find the results of the traffic data collection, the procedures for requesting a Heavy Commercial Vehicle Exclusion in Massachusetts, a map displaying the proposed Heavy Commercial Vehicle Exclusion zone and preferred truck route, and a zoning map for the Town of Avon. The Town may use this traffic data as supporting material for its request for a Heavy Commercial Vehicle Exclusion on Page Street, West High Street, and Pond Street. It is recommended that the Town of Avon contact MassDOT District Five and work with them on pursuing a Heavy Commercial Vehicle Exclusion for these roadways

Should you have any questions or comments about this traffic study or its findings, please contact Bill McNulty at (508) 583-1833 ext. 207, or by e-mail at wmcnulty@ocpcrpa.org.

Appendix

- A. Traffic Count Data
- B. Map of Potential HCVE Zones and Preferred Truck Route
- C. Zoning Map – Town of Avon
- D. 2012 Massachusetts Amendments to the 2009 MUTCD Section 10A-9 – Heavy Commercial Vehicle Exclusions

Cc:

Mr. William Fitzgerald, Director, Avon Department of Public Works
Chief David Martineau, Avon Police Department
Mr. Charles Comeau, Chairman, Avon Planning Board
Mr. Frank P. Staffier, Avon Delegate to Old Colony Planning Council
Ms. Mary-Joe Perry, District Highway Director, MassDOT District Five
Mr. Derek Krevat, MassDOT Office of Transportation Planning, Old Colony MPO Liaison
Mr. Nelson Hoffman, Program Development Team Leader, Federal Highway Administration