



BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Richard A. Davey, MassDOT Secretary and CEO and MPO Chairman
Karl H. Quackenbush, Executive Director, MPO Staff

MEMORANDUM

DATE: October 19, 2013
TO: James Errickson, Executive Director, Department of Planning and Development, City of Everett
FROM: Seth Asante, Metropolitan Planning Organization (MPO) Staff
RE: Federal Fiscal Year (FFY) 2013 Community Transportation Technical Assistance Program: Safety Improvements for Pedestrians and Bicyclists at Glendale Square (Ferry Street and Elm Street)

1 INTRODUCTION

The City of Everett requested technical assistance from the Boston Region MPO to review conceptual plans for rehabilitating Ferry Street and Elm Street in the Glendale Square neighborhood for traffic safety and operational improvements.¹ The Glendale Square neighborhood is zoned for mixed commercial, residential, recreational, educational, and institutional use (Figure 1). As a result of the mixed land use status, Ferry Street and Elm Street serve many types of users, including motorists, pedestrians, bicyclists, and transit riders. MPO staff reviewed the conceptual plans from 1) a complete street perspective—where it is safest to cross the street and walk or cycle to shops or schools or recreational areas and 2) a motor-vehicle perspective—where it is safest to drive.

2 STUDY LOCATION

Figure 1 shows the area under study, Glendale Square. Ferry Street runs north-south, connecting the communities of Malden to the north and Chelsea to the south, and has a speed limit of 30 miles per hour (mph) in each direction. It is, for the most part, a two-way, two-lane street with wider exclusive turn lanes at signalized intersections. It has a median strip between Broadway and Sycamore Street. Ferry Street, within the study area, is zoned for mixed use. The vicinity of Ferry Street and Broadway comprises residences, retail stores, banks, a shopping center, and a gas station. Further south, near the Elm Street intersection, Ferry Street comprises residences and a community park (Glendale Park). On-street parking is allowed on both sides of Ferry Street, and is free to the public. Ferry Street has sidewalks on both sides, and crosswalks with wheelchair ramps and detectable warning plates at the intersections.

¹ WorldTech Engineering, Inc., Rehabilitation of Ferry Street, Everett, MA, Functional Design Report, Prepared for City of Everett, MA, Draft March 2013.



BOSTON
REGION
MPO

FIGURE 1
Study Area Map with Pedestrian and Bicycle Crashes

*City of Everett
Community Transportation
Technical Assistance*

There are no bicycle lanes on Ferry Street; bicycles share the streets with motorists. Massachusetts Bay Transportation Authority (MBTA) bus route 109 from Malden Center Station to Sullivan Square Station via Ferry Street and Broadway serves the northern portion of Ferry Street, including Glendale Square. The corner of Ferry Street and Broadway is the major signalized intersection on Ferry Street; it features pedestrian signals, including a pedestrian-only phase, and crosswalks with wheelchair ramps.

Elm Street is located about one-quarter mile south of Broadway, primarily running east-west, and crossing Ferry Street to form a signalized intersection. It is a two-way two-lane street connecting Revere to the east, with a 30 mph speed limit in either direction. The land use on Elm Street is mixed—the Glendale Park and Everett High School are located on the north side; and the Everett Police Department, Allied Veterans Memorial Rink, and Everett Recreational Center are located on the south side. There are sidewalks on both sides of Elm Street, and crosswalks with wheelchair ramps and detectable warning plates have been constructed at the Ferry Street intersection. There are no bicycle lanes on Elm Street, so bicyclists share the street with motorists. The intersection of Ferry Street and Elm Street is located about one-quarter mile south of Broadway and features pedestrian-activated pushbutton signals, including a pedestrian-only phase, and crosswalks with wheelchair ramps.

3 EXISTING CONDITIONS

MPO staff met with James Errickson, Executive Director, Department of Planning and Development, City of Everett to discuss safety and operations concerns in Glendale Square, specifically the newly developed conceptual plans for Ferry Street and Elm Street. Mr. Errickson asked that MPO staff review the plans and suggest additional improvements. A field visit conducted by MPO staff after the meeting with Mr. Errickson to assess safety and operations, resulted in the following observations:

- Moderate to high pedestrian activities on Ferry Street and Elm Street because of the mixed commercial, recreational, and educational land use
- Everett High School students walking to and from school on Ferry Street and Elm Street
- Bicyclists riding on the sidewalks on Ferry Street and Elm Street
- High usage of on-street parking on Ferry Street

In addition to the field visit, MPO staff reviewed crash data for Ferry Street and Elm Street in Glendale Square from January 2006 to December 2010.² As cited in Table 1 (shaded area), during this time period, 15 pedestrian and bicycle crashes occurred on Ferry Street and Elm Street. The intersection of Ferry Street and Broadway recorded a rate of 0.83 crashes per million of entering vehicles, which exceeded the District 4 average crash rate for signalized intersections during the same period.³

TABLE 1
Crash Summaries (2006–2010)

	Ferry Street and Broadway Intersection	Ferry Street and Elm Street Intersection	Ferry Street between Broadway and Elm Street	Elm Street between Ferry Street and Woodlawn Street
Fatal Injury	0	0	0	0
Non-fatal injury	16	5	6	3
Property damage only	22	2	16	6
Unknown/not reported	10	6	8	6
Angle	14	1	13	4
Rear end	13	6	5	4
Sideswipe	4	1	5	3
Single-vehicle crash	9	3	4	1
Head-on	2	0	0	2
Unknown/not reported	6	2	3	1
Pedestrians	6	2	3	1
Bicyclists	1	2	0	0
AM or PM peak period*	8	5	8	2
Non-peak period	40	8	22	13
Dry	34	11	24	11
Wet or icy	11	2	4	3
Daylight	26	8	18	8
Dark (lit or unlit)	22	5	12	7
Total crashes	48	13	30	15
Five-year average	10	3	6	3

Note: Shading denotes locations high numbers of pedestrian and bicycle crashes.

² Source: Massachusetts Department of Transportation (MassDOT) Registry of Motor Vehicles crash database.

³ WorldTech Engineering, Inc., Rehabilitation of Ferry Street, Everett, MA, Functional Design Report, Prepared for City of Everett, MA, Draft March 2013.

Traffic operations on Ferry Street at its intersection with Broadway and Elm Street were acceptable, though with occasional traffic queues, during peak periods. MPO staff analysis of the conceptual plans indicated acceptable levels of service. However, for signalized intersections abutting short urban blocks, queues extended beyond those blocks.

4 SUGGESTED IMPROVEMENTS

The conceptual plans for Ferry Street and Elm Street include improvements that would increase safety. For example, the proposed bulb-outs promote pedestrian safety by reducing crossing distances. New signal equipment with video detection for bicycles, and a widened median on Ferry Street (between Nielson Avenue and Broadway) are expected to increase safety for both pedestrians and bicyclists.

Based on the conceptual plans in the functional design report, field visits, and crash analysis, MPO staff concluded that the following improvements would enhance safety and operations:



Shared-lane markings (sharrows)

- Install shared-lane markings (sharrows) (see photograph) on Ferry Street and Elm Street to inform motorists of the presence of bicyclists
- Install pedestrian countdown timers at the intersections of Ferry Street with Broadway and Elm Street
- Mark crosswalks for high visibility—such as ladder, zebra style, or paver crosswalks proposed in the concept plans
- Install “no turn on red” signs at the intersection of Elm Street and Ferry Street (would not affect levels of service)
- Increase all-red clearance intervals for Broadway through traffic to two or three seconds from one second to compensate for width of intersection