

Planning Board East Harwich Subcommittee
Meeting 2 December 2014

Planning Board

Joan Kozar
Al Atkinson
Jim Atkinson
David Spitz

Cape Cod Commission

Glenn Cannon
Steve Tupper
Martha Hevenor

Public

Al Rosenberg
Carol Ridley
Karen Hall

Discussion of the 12/2/2014 presentation of traffic analysis by the Cape Cod Commission. (Copy of presentation attached.)

All assessments were done based on peak season. At present, several intersections are at a "failure point" regardless of whether it is current, no build or proposed build scenario. Some mitigation (improved signalization, timing, etc) could improve things somewhat.

The questions from the public asked if changing the mix of retail/professional/residential would have an effect on the traffic.

CCC said that consolidating or focusing the development to one area, and increasing pedestrian access would improve conditions. CCC is due to report to the State by the end of December 2014. A draft of the traffic studies will be sent to David Spitz for further dissemination.

East Harwich Village Center

Preliminary Results of Transportation Analysis

Handout for Meeting with East Harwich Subcommittee - **12/2/14**



CAPE COD
COMMISSION

Development Scenario

150,000 sq. ft. of residential

- (120 units at 1,250 sq. ft.)

200,000 sq. ft. of commercial

- 35% retail (70,000 sq. ft.)
- 15% office (30,000 sq. ft.)
- 25% medical-dental office (50,000 sq. ft.)
- 15% restaurant (30,000 sq. ft.)
- 10% other commercial (20,000 sq. ft.)



Analysis Assumptions

Development by Quadrants

- Split based on parcel analysis
- NE: 70K, NW: 205K, SW: 75K

Analysis Parameters

- 2024 Analysis Year – 2024
- 1% Annual Background Growth

Trip Generation

- Per Institute of Transportation of Transportation (ITE) Engineers, 9th Edition
- Reduction for Internal Trip Capture based in ITE guidance (~10%, varied by analysis period)
- 5% reduction for non-automobile trips

Estimated Trip Generation

Analysis Period	Estimated New Trips
Weekday Daily	8,070
Weekday AM Peak Hour (8-9 AM)	603
Weekday PM Peak Hour (4-5 PM)	831
Saturday Daily	7,146
Saturday Peak Hour (11AM-12PM)	866

Signalized Intersection Analysis

Peak Season Weekday PM Peak Hour Analysis

Location	2014 Existing	2024 No Build	2024 Build	2024 Mitigated
Route 137 at Route 39	D	D	F (+30%)	E (retiming and minor equipment upgrades)
Route 137 at Route 6 EB Ramp	B	B	C (+59%)	-
Route 137 at Stop & Shop/ Hess	B	B	C (+10%)	-

(% increase in delay from 2024 No Build to 2024 Build)

Unsignalized Intersection Analysis

Peak Season Weekday PM Peak Hour Analysis

Location	2014 Existing	2024 No Build	2024 Build	2024 Mitigated
Route 137 at Route 6 WB Ramp	F	F	F (+>100%)	B (signalize)
Route 137 at Pleasant Bay Road	F	F	F (+>100%)	?
Route 39 at Pleasant Bay Road	F	F	F (+>100%)	B (single lane roundabout)
Route 137 at Continental Drive	B	B	B (+25%)	-
Route 137 at New North Intersection (possibly at Auston Road)	-	-	F	C (signalize with left turn lanes)
Route 39 at Auston Road	-	-	B	-
Route 39 at New Intersection (West of Route 137)	-	-	B	-

(% increase in delay from 2024 No Build to 2024 Build)

Discussion of 2024 Mitigated Scenario

- The 2024 Mitigated Scenario represents possible improvement options to help mitigate potential impacts. Many other options exist depending on the desirable level of operation at each location.
- The 2024 Mitigated Scenario analysis is based on high level conceptual designs, more detailed consideration of potential improvements would be required for more precise analysis

Roadway Analysis

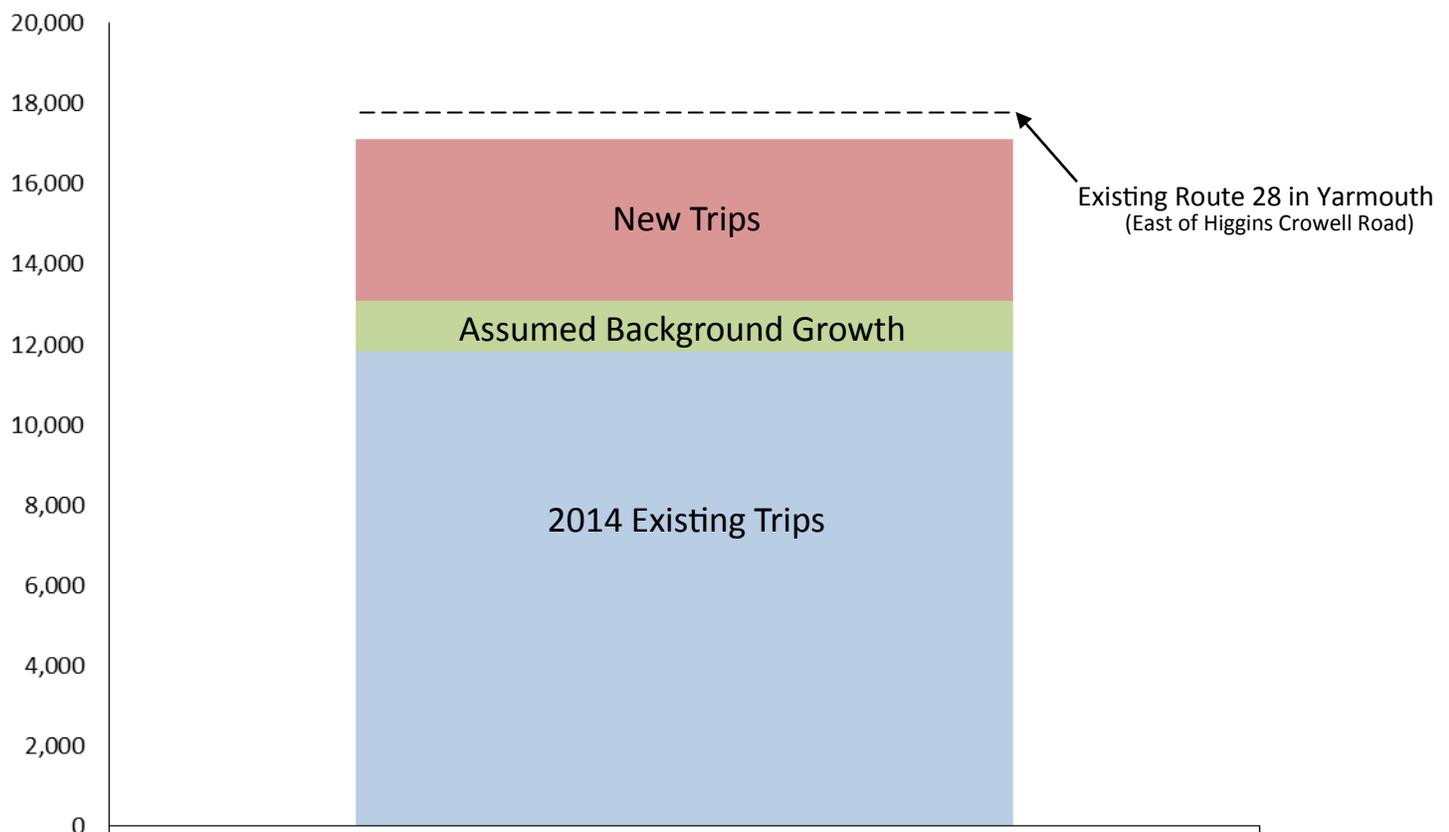
Route 39

- Approximate Existing volumes (2014):
 - Annual Average Daily Traffic ~8,000
 - Summer Average Daily Traffic ~10,000
 - Summer PM Peak Hour Volume ~ 900
- A 10-15% increase in traffic would be experienced on Route 39
- With lower volumes than Route 137 and less new trips anticipated, the roadway could continue to operate well as a two lane roadway

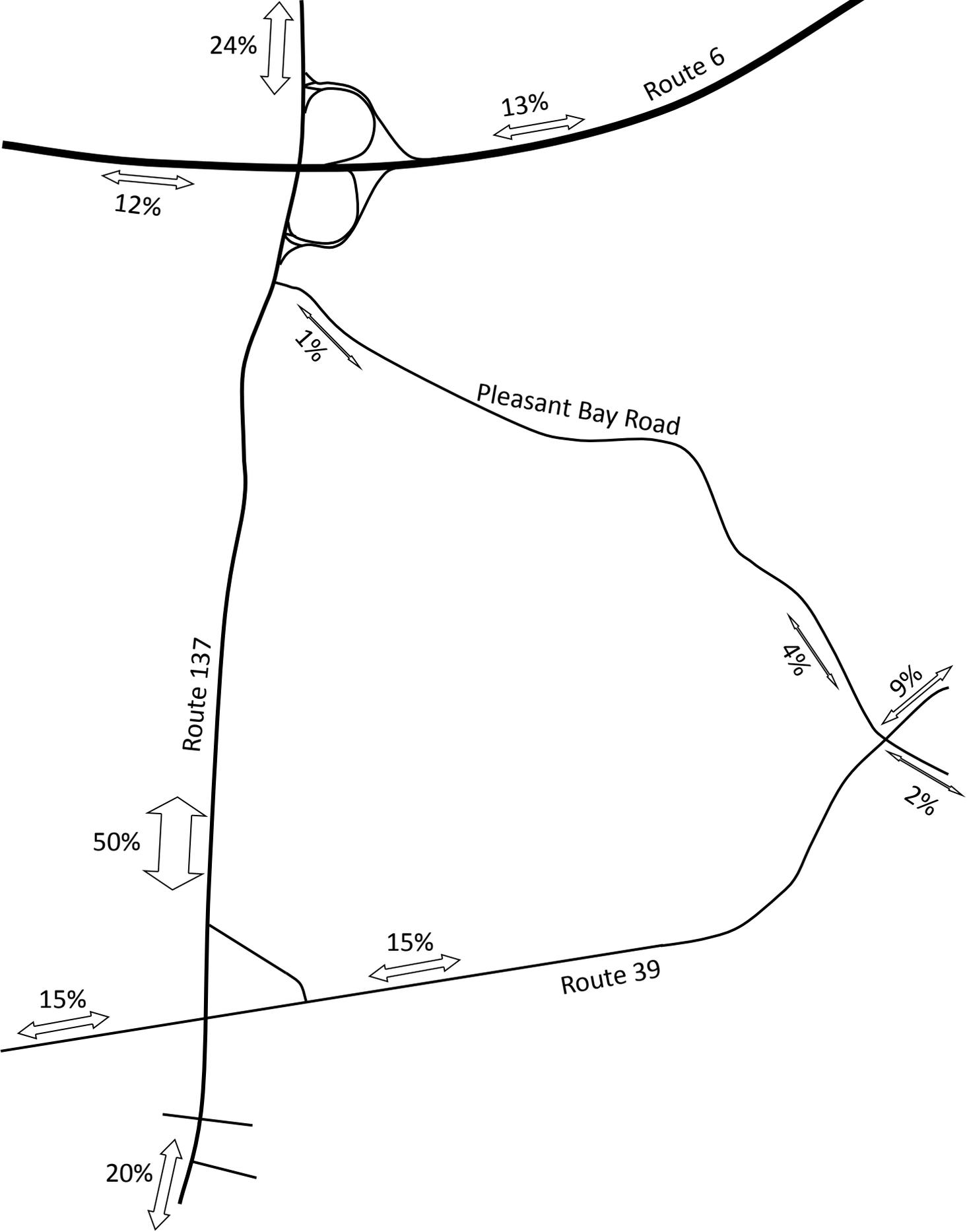
Route 137

- Approximate Existing volumes (2014):
 - Annual Average Daily Traffic ~12,000
 - Summer Average Daily Traffic ~16,000
 - Summer PM Peak Hour Volume ~ 1,200
- A 20-35% increase in traffic would be experienced on Route 137 north of the village center (less to the south)

Average Annual Daily Traffic on Route 137



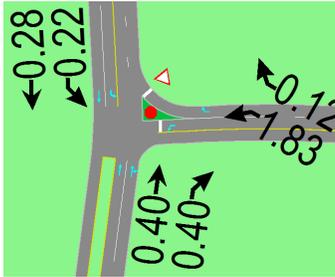
Weekday PM Trip Distribution



Approach Volume/Capacity Ratios and Level of Service

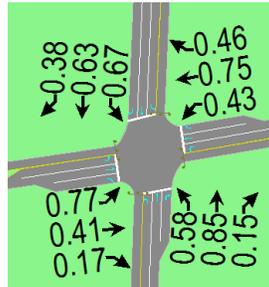
2014 Existing - Peak Season - PM Peak Hour

1. Route 137 at Route 6 WB Ramp



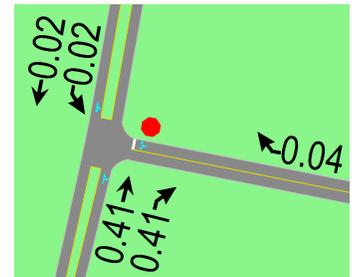
Worst Approach **LOS F**

5. Route 137 at Route 39 [Signal]



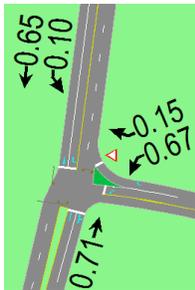
Intersection **LOS D**

7. Route 137 at Continental Drive

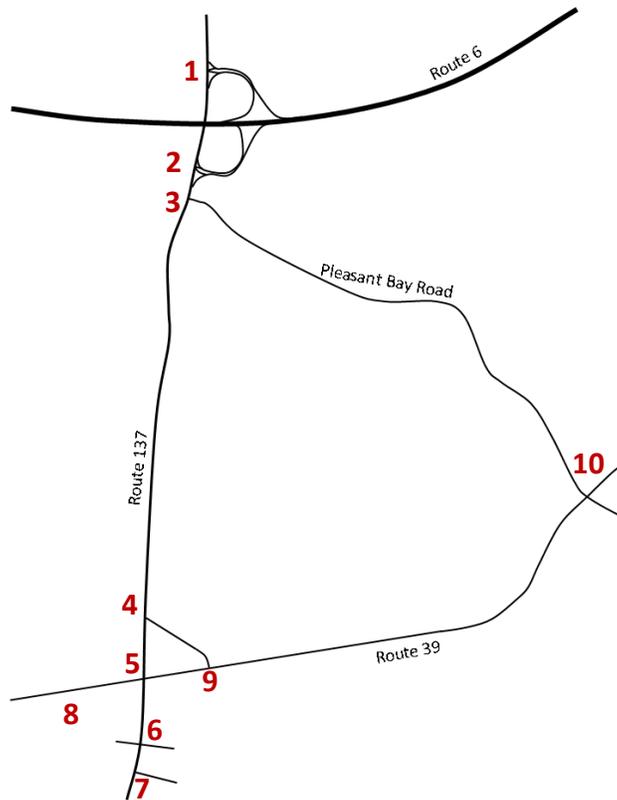


Worst Approach **LOS B**

2. Route 137 at Route 6 EB Ramp [Signal]



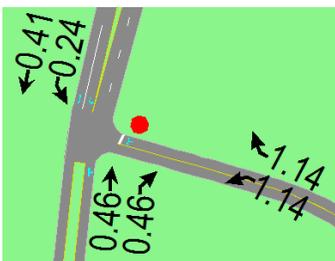
Intersection **LOS B**



8. Route 39 at New Intersection (West of Route 137)

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3. Route 137 at Pleasant Bay Road



Worst Approach **LOS F**

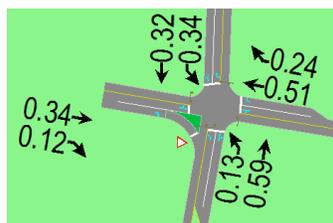
9. Route 39 at Auston Road

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4. Route 137 at New North Intersection (Maybe at Auston)

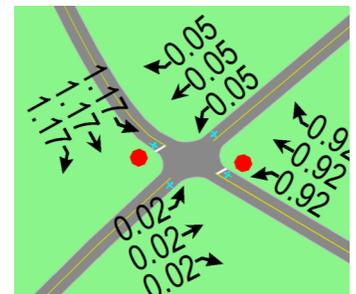
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6. Route 137 at Stop & Shop/ Hess [Signal]



Intersection **LOS B**

10. Route 39 at Pleasant Bay Road



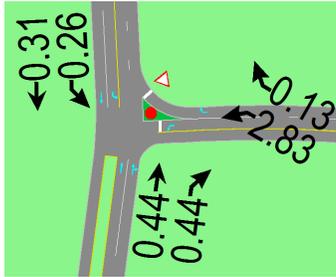
Worst Approach **LOS F**

Note: Geometric configuration of the intersections are approximate for analysis purposes and are not intended to be exact representations of the intersections.

Approach Volume/Capacity Ratios and Level of Service

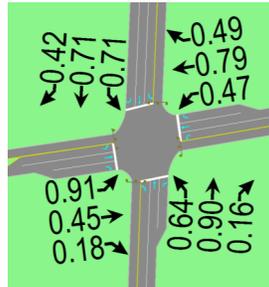
2024 No Build Conditions - Peak Season - PM Peak Hour

1. Route 137 at Route 6 WB Ramp



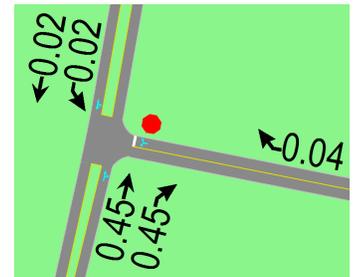
Worst Approach **LOS F**

5. Route 137 at Route 39 [Signal]



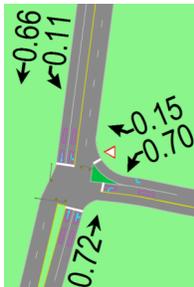
Intersection **LOS D**

7. Route 137 at Continental Drive



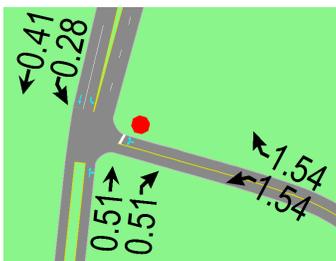
Worst Approach **LOS B**

2. Route 137 at Route 6 EB Ramp [Signal]

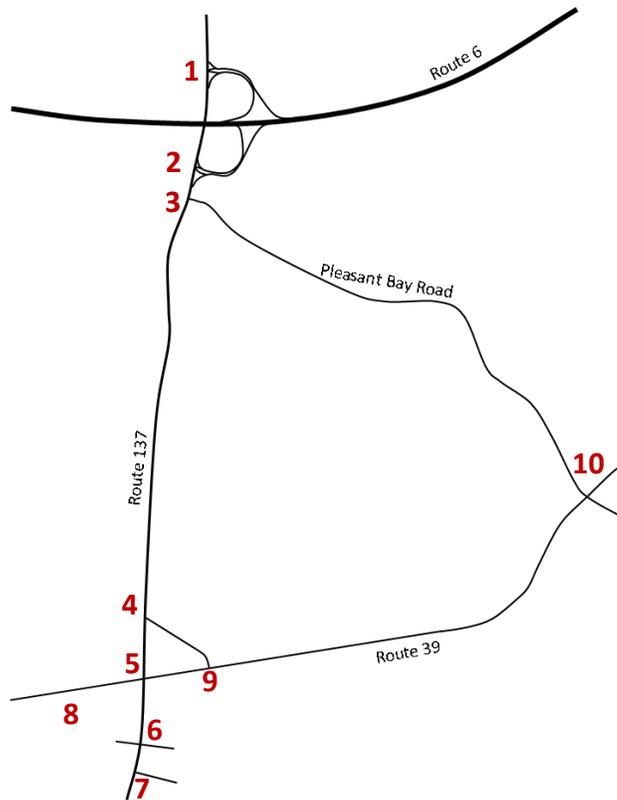


Intersection **LOS B**

3. Route 137 at Pleasant Bay Road



Worst Approach **LOS F**

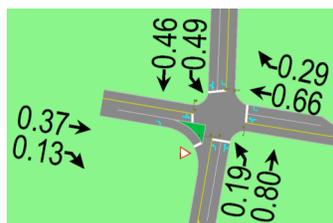


9. Route 39 at Auston Road

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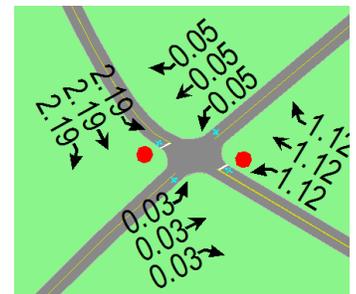
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6. Route 137 at Stop & Shop/ Hess [Signal]



Intersection **LOS B**

10. Route 39 at Pleasant Bay Road



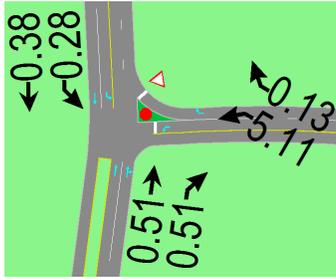
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Approach Volume/Capacity Ratios and Level of Service

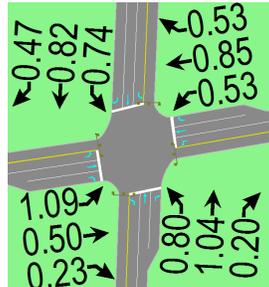
2024 Build Conditions - Peak Season - PM Peak Hour

1. Route 137 at Route 6 WB Ramp



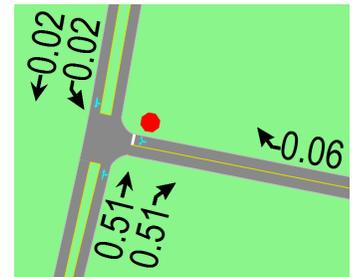
Worst Approach **LOS F**

5. Route 137 at Route 39 [Signal]



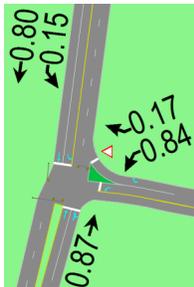
Intersection **LOS F**

7. Route 137 at Continental Drive



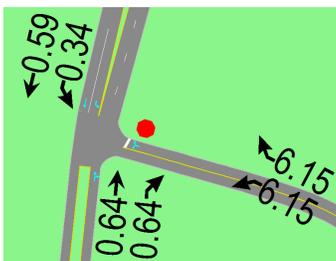
Worst Approach **LOS B**

2. Route 137 at Route 6 EB Ramp [Signal]

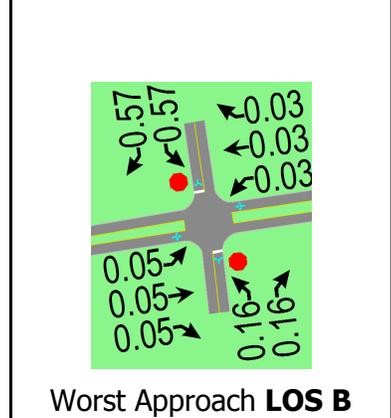
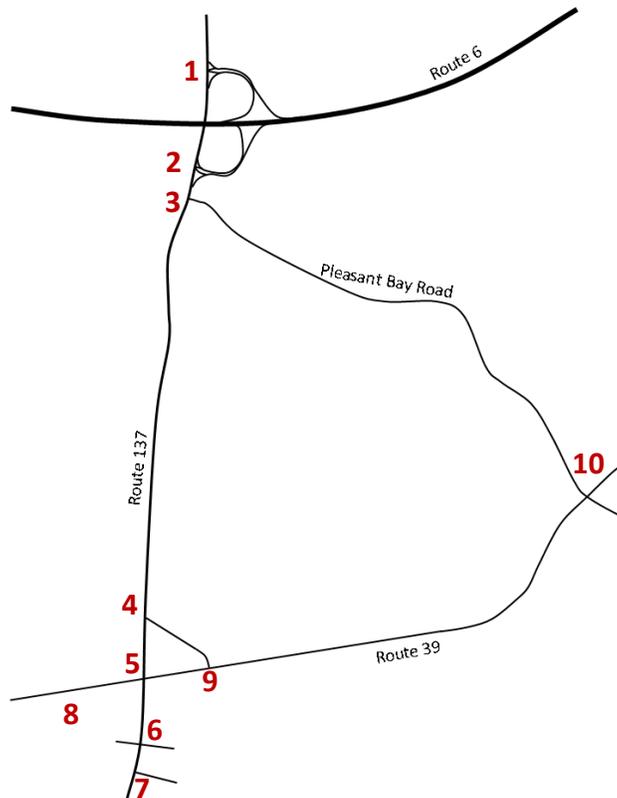


Intersection **LOS C**

3. Route 137 at Pleasant Bay Road

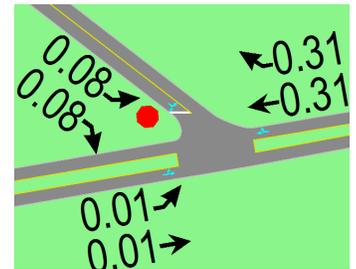


Worst Approach **LOS F**

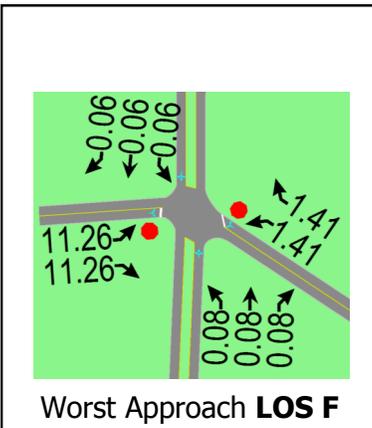


Worst Approach **LOS B**

9. Route 39 at Auston Road

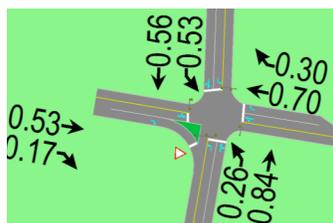


Worst Approach **LOS B**



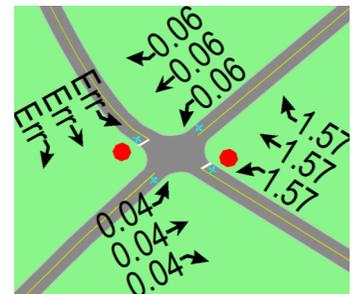
Worst Approach **LOS F**

6. Route 137 at Stop & Shop/ Hess [Signal]



Intersection **LOS C**

10. Route 39 at Pleasant Bay Road



Worst Approach **LOS F**

Note: Geometric configuration of the intersections are approximate for analysis purposes and are not intended to be exact representations of the intersections.

Requested Analysis of Other Roadways

Depot Road

- 80-100 new peak hour trips through the intersection with Route 39
- 15-20 new peak hour trips on Depot Road

Pleasant Bay Road

- 100-125 new peak hour trips at the intersection with Route 39
- 330-340 new peak hour trips at the intersection with Route 137
- 20-40 new peak hour trips on Pleasant Bay Road, assuming travel patterns stay the same
- If travels shift towards Pleasant Bay Road to avoid congestion, impacts would be greater

Requested Crash Analysis

5-Year Crash Review: 2008-2012

Route 39 at Pleasant Bay Road

- 28 reported crashes
- 11 injury crashes, 17 property damage only
- 25 angle, 2 rear-end, 1 single vehicle

Route 137 at Continental Drive

- 4 reported crashes
- 1 injury crashes, 3 property damage only
- 3 rear-end, 1 single vehicle

Note: Data based on reported crashes in MassDOT crash database. Consultation with the Harwich Police Department would be required for more detailed analysis.

Next Steps

Finalize traffic study based on feedback from this meeting

Report back to the subcommittee

Contact Information for Follow-up Questions

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