

PACTS

Destination Tomorrow Expansion Subcommittee

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Alternatives Analysis: Preliminary Key Findings

August 18, 2004



Three Transportation Packages Evaluated

1. Interstate Packages (2 groups of strategies)

- Strategies related to I-295
- Strategies related to the Maine Turnpike

2. Arterial Package (1 group of strategies)

3. Transit Packages (2 groups of strategies)

- Strategies to Expand Existing Transit
- Strategies to New Transit Service Improvements

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Three Transportation Packages Evaluated

- **Groups of Similar Strategies (Generally) In New PACTS Area Modeled Together in ‘Packages’**

1. Interstate Packages (2 groups of strategies)

- **Strategies related to I-295**
- **Strategies related to the Maine Turnpike**

2. Arterial Package (1 group of strategies)

3. Transit Packages (2 groups of strategies)

- **Strategies to Expand Existing Transit**
- **Strategies to New Transit Service Improvements**

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'Best Of' Package of Strategies from Destination Tomorrow

- **Strategies Carried Forward as the 'Best Of' from Destination Tomorrow**

- **Roadway**
- **Transit**

- **These 'Best Of' Strategies are Added to those in the 2025 No Build Network (Presented at Previous Meeting) and are Part of All of the Five Packages Tested for DTx**

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- **Try to Assess Benefits / Impacts of Each Strategy Individually (even though part of a package)**
- **All Are Tested With Trend 2025 Population and Employment Forecasts**

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What's Modeled In The Theme Packages?

No Build		'Best of'		New Theme
2025	+	DT	+	Package
Network		Strategies		Strategies

Alternatives Analysis



'Best of' Project Package from Destination Tomorrow Highway Network Strategies

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- Rebuild 295/Forest Ave interchange in Portland
- Relocate existing NB entry ramp to 295 from Westbrook St in South Portland
- New NB exit ramp from 295 to Route 1 at Exit 4
- Add 3rd lane on NB and SB 295 between Forest and Franklin interchanges in Portland
- Add 3rd lane on NB and SB 295 between Westbrook St and Route 1 interchanges in South Portland
- Modify Route 703 ramps at Maine Mall Rd
- Extend Route 703 across Turnpike to intersect with Running Hill Road (full access from both directions to/from Turnpike)
- Widen Running Hill to 4 lanes (Spring to SR 114)
- Widen Cummings/Spring to four lanes (Payne to Eisenhower)
- Extend Larrabee Road to Eisenhower/Spring intersection; at-grade intersection with Westbrook/Stroudwater St
- New Industrial Park Rd from Saco/Eisenhower Dr to Moshers Corner (Route 25)
- Widen Congress St to 5 lanes between Sewall and Stevens
- Gorham Bypass (added 8-18-04)

‘Best of’ Project Package from Destination Tomorrow

Transit Network Strategies

- Extend METRO service to Falmouth/Exit 10
- Extend METRO service to Walmart/Payne Rd in Scarborough
- Double frequency on all existing METRO and South Portland Bus routes
- New bus service between Gorham and Portland via Westbrook
- New bus service between Portland and Dunstan Corner
- New commuter bus service between North Windham and Portland via Westbrook

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Interstate Theme: Strategy Grouping #1 Maine Turnpike Related Strategies

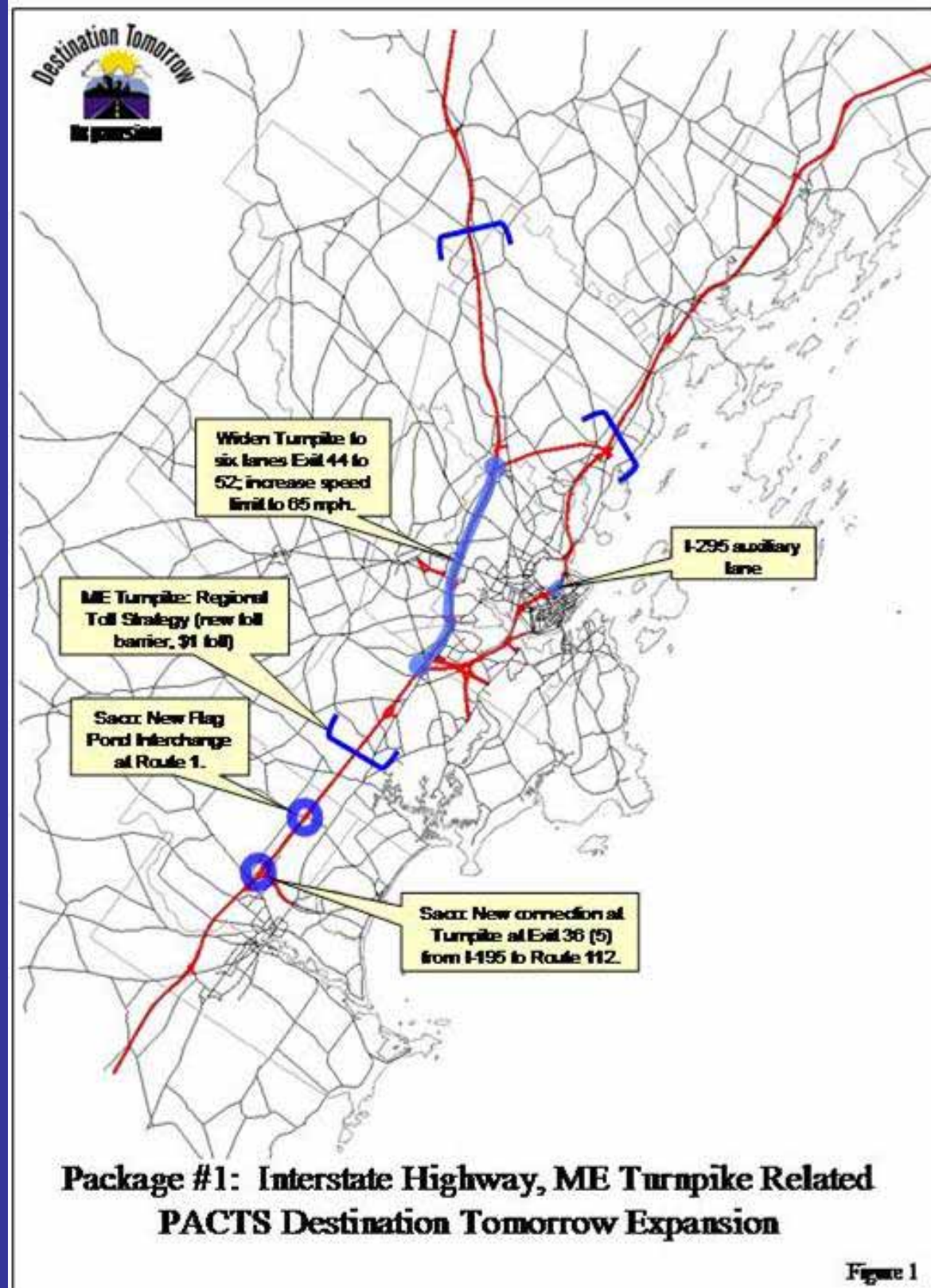
- Regional toll system; new toll barrier south of Exit 6A; \$1 each direction
- Widen Turnpike to six lanes between Exits 6A and 9
- Increase Turnpike speed limit to 65mph where it currently is 55mph in metro area
- New Turnpike interchange at Flag Pond Rd/Route 1 in Saco
- Extend I-195 through Turnpike interchange to SR 112; allow full interchange usage by SR 112 traffic

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Interstate Theme: Strategy Grouping #1 Maine Turnpike Related Strategies

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Interstate Theme: Strategy Grouping #2 I-295 Related Strategies

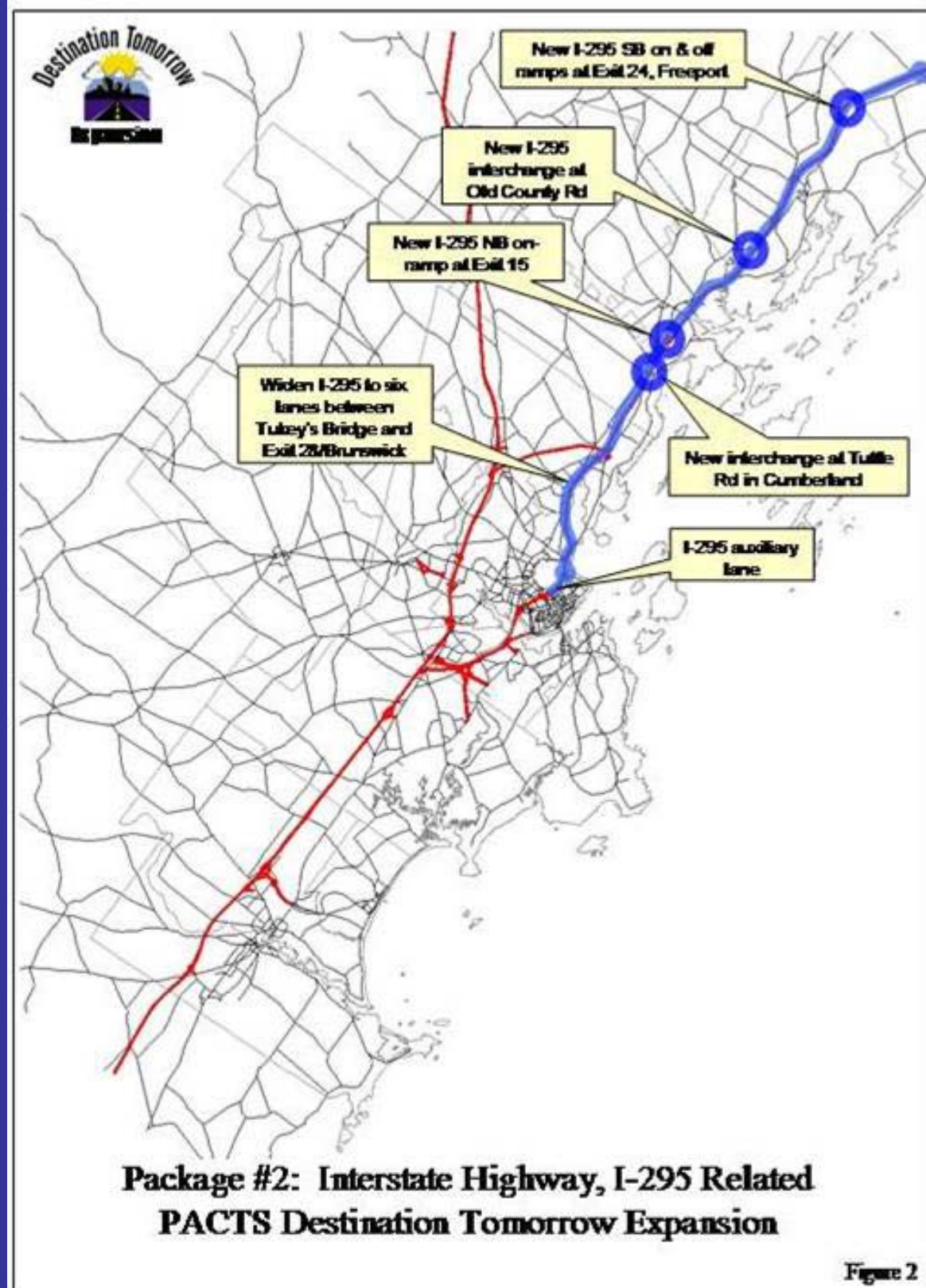
- New I-295 interchange in Freeport near Old County Rd
- Expand current I-295 NB entry/exit interchange north of Freeport to full interchange
- New I-295 interchange with Route 1 near Tuttle Road in Cumberland
- Provide NB entry ramp to I-295 from Route 1 at existing Yarmouth interchange
- Widen I-295 to six lanes between Tukey's Bridge and Brunswick

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Interstate Theme: Strategy Grouping #2 I-295 Related Strategies

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Arterial Theme

New Alignment Roads and Widened Existing Roads

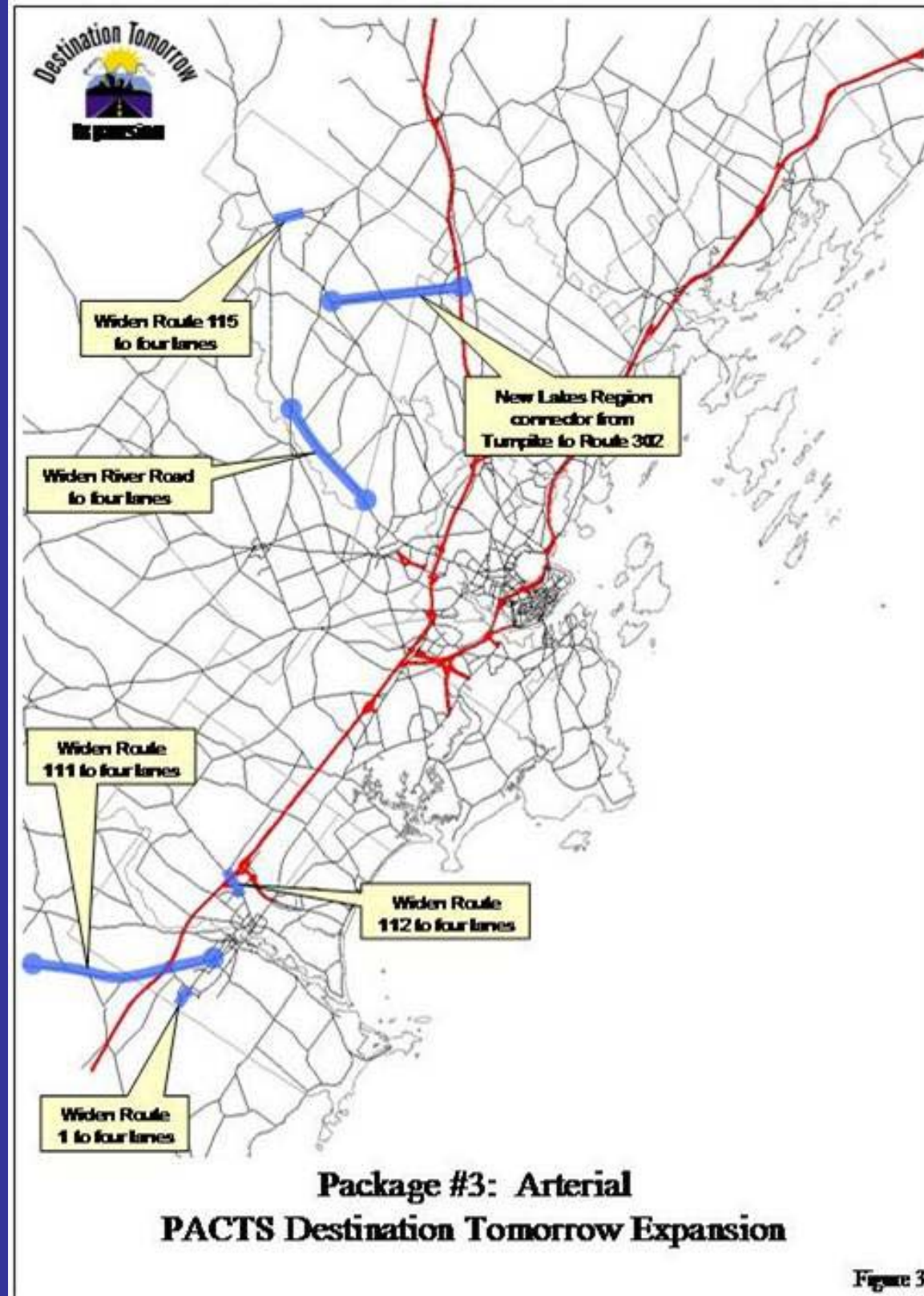
- New Lakes region connector between Maine Turnpike and Fosters Corner (no access to Connector from Falmouth Rd, Blackstrap Rd, etc) in Windham
- Widen SR 111 to 4 lanes from Biddeford at the Maine Turnpike westerly
- Widen Route 1 between Precourt and Campground in Biddeford
- Widen River Rd in Windham from Route 202 to Westbrook city line
- Widen SR 115 between Route 302 and Falmouth Rd in Windham
- Widen SR 112 in Saco between Jenkins and Shadagee

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Arterial Package #3: New Alignment Roads and Widened Existing Roads

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Transit Theme #1

Expand Existing Routes (or new routes in No Build)

- Double Tri-Town Service bus frequency (to 15 minute frequency) in Biddeford-Saco-Old Orchard Beach
- Double bus frequency (to 30 minute frequency) for Biddeford-Sanford (60 minute frequency new service in No Build Network)
- Double bus frequency for Biddeford-Kennebunk (to 30 minute frequency) (60 minute frequency new service in No Build Network)
- Double bus frequency for Biddeford-Portland Service (to 30 minutes)

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Transit Theme #2 New Transit Service

- New passenger rail service
 - Windham to Portland (replaces bus)
 - Portland to Lewiston-Auburn
- New Biddeford-Saco-Old Orchard Beach bus service to Waterboro
- New commuter bus between Portland and Pineland

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Evaluation Steps

- 1. Look at System-wide Total Vehicle Miles Traveled (VMT) & Vehicle Hours Traveled (VHT) Measures**
 - **Reductions in VMT and VHT are desirable/'good'**
- 2. Look at System-wide Changes in Traffic Volumes for the Theme Package Networks versus Traffic Volumes in**
 - **Existing 2000**
 - **2025 No Build**
 - **2025 'Best Of'**
- 3. Assess Benefits / Impacts of Each Strategy Individually (even though part of a package)**

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Alternatives Analysis



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Vehicle Miles Traveled (VMT)

	Total VMT (000)	Compare to 2000	Compare to 2025 No Build
2000	1,330		
2025 No Build	1,660	25%	
'Best Of' 2025	1,655	24%	-0.4%
Package #1: Interstate ME Turnpike	1,680	26%	+1.0%
Package #2: Interstate I-295	1,670	25%	+0.4%
Package #3: Arterial	1,665	25%	Negligible

Source: PACTS Travel Demand Model, 2004.

Conclusions

- VMT is Forecasted to Change in 2025 in the Range of +24% to +26% vs 2000 Existing Conditions
- Interstate Package #1 (Strategies Related to the Maine Turnpike) increases VMT the most
- Reductions versus No Build and 'Best Of' package are slight

Alternatives Analysis



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Vehicle Hours Traveled (VHT)

	Total VHT	Compare to 2000	Compare to 2025 No Build
2000	37,340		
2025 No Build	49,575	33%	
'Best Of' 2025	49,020	31%	-1.1%
Package #1: Interstate ME Turnpike	49,125	32%	-0.9%
Package #2: Interstate I-295	48,475	30%	-2.2%
Package #3: Arterial	48,920	31%	-1.3%

Source: PACTS Travel Demand Model, 2004.

Conclusions

- VHT is Forecasted to Change in 2025 in the Range of +30% to +33% versus 2000 (third column)
- VHT increases more than VMT (congestion increasing overall)
- Package #2: Interstate I-295 decreases VHT the most (fourth and fifth columns)
- Reductions versus No Build and 'Best Of' package are slight

Alternatives Analysis

Interstate #1: Maine Turnpike Related

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Strategy:

Regional Toll; Barrier s/o Exit 6A; \$1 each direction; widen Turnpike to 6 lanes; increase speed limit to 65 mph

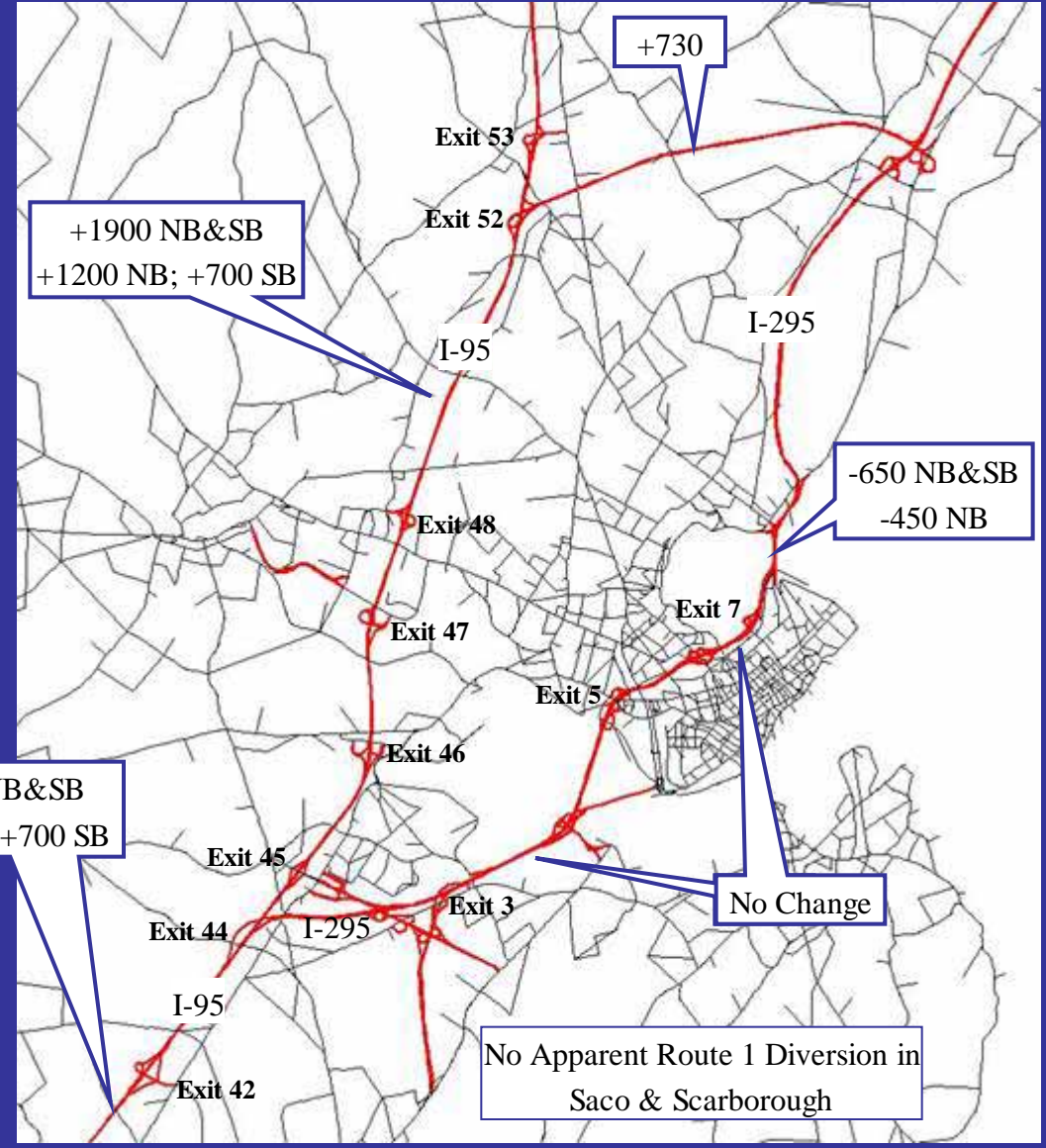
Purpose:

Attract greater Portland intra-regional trips to Turnpike; attract through trips to Turnpike; reduce need to widen I-295 through Portland.

Benefits/Impacts:

Greater use of Turnpike; No modeled diversion to Route 1 in Saco/Scarborough; Marginal->Moderate reductions in I-295.

Complementary Actions:



Total Volumes: Two direction; Comparisons to 2025 No Build

All volumes pm peak hour.

Alternatives Analysis

Interstate #1: Maine Turnpike Related

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Strategy:

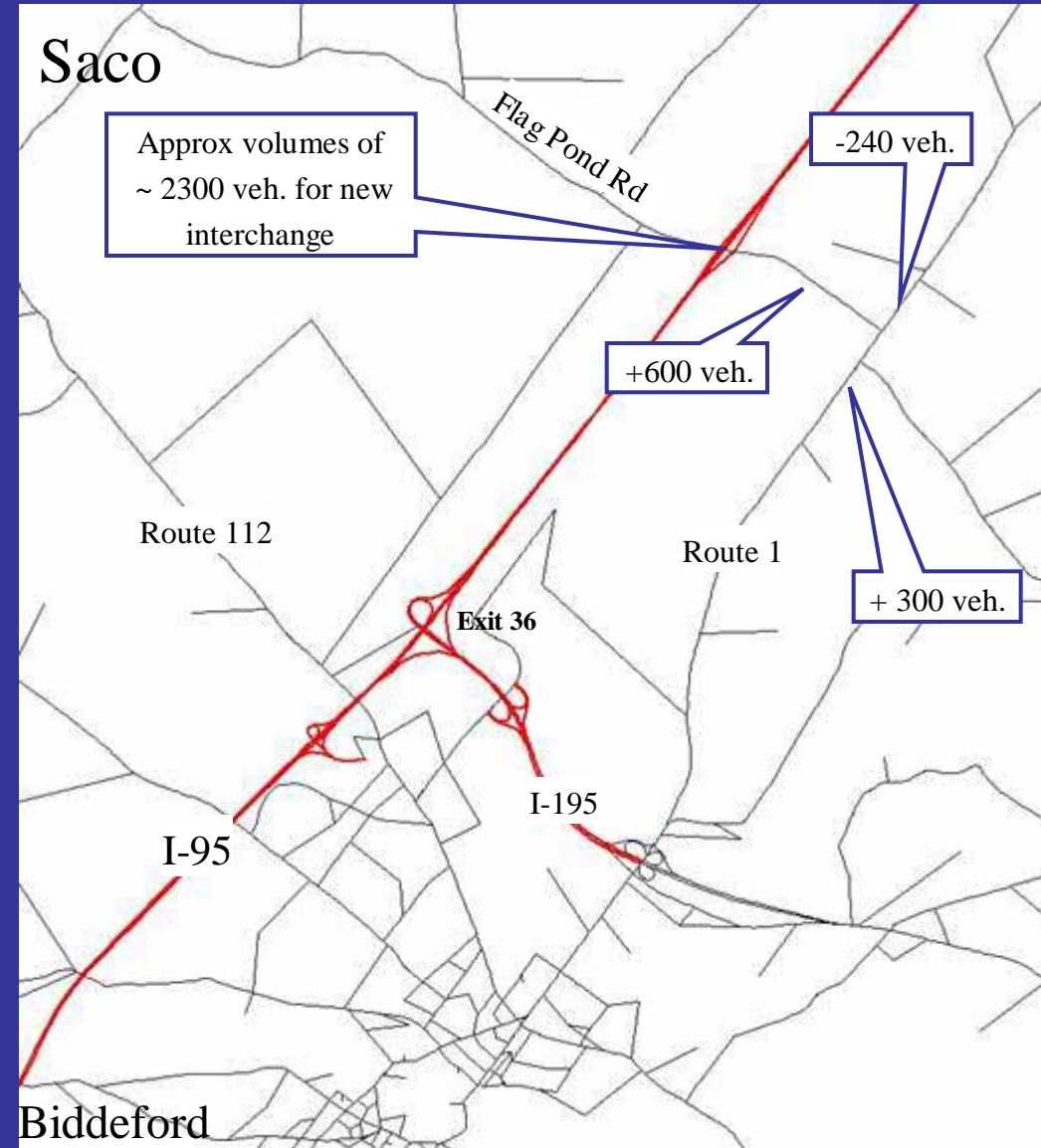
New Turnpike interchange at Flag Pond Road/Route 1 in Saco

Purpose:

New Turnpike accessibility. Reduce demands on/reduce congestion at I-195/Route 1.

Benefits/Impacts:

Complementary Actions:



**Total Volumes: Two direction;
Comparisons to 2025 No Build**

All volumes pm peak hour.

Alternatives Analysis

Interstate #1: Maine Turnpike Related

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Strategy:

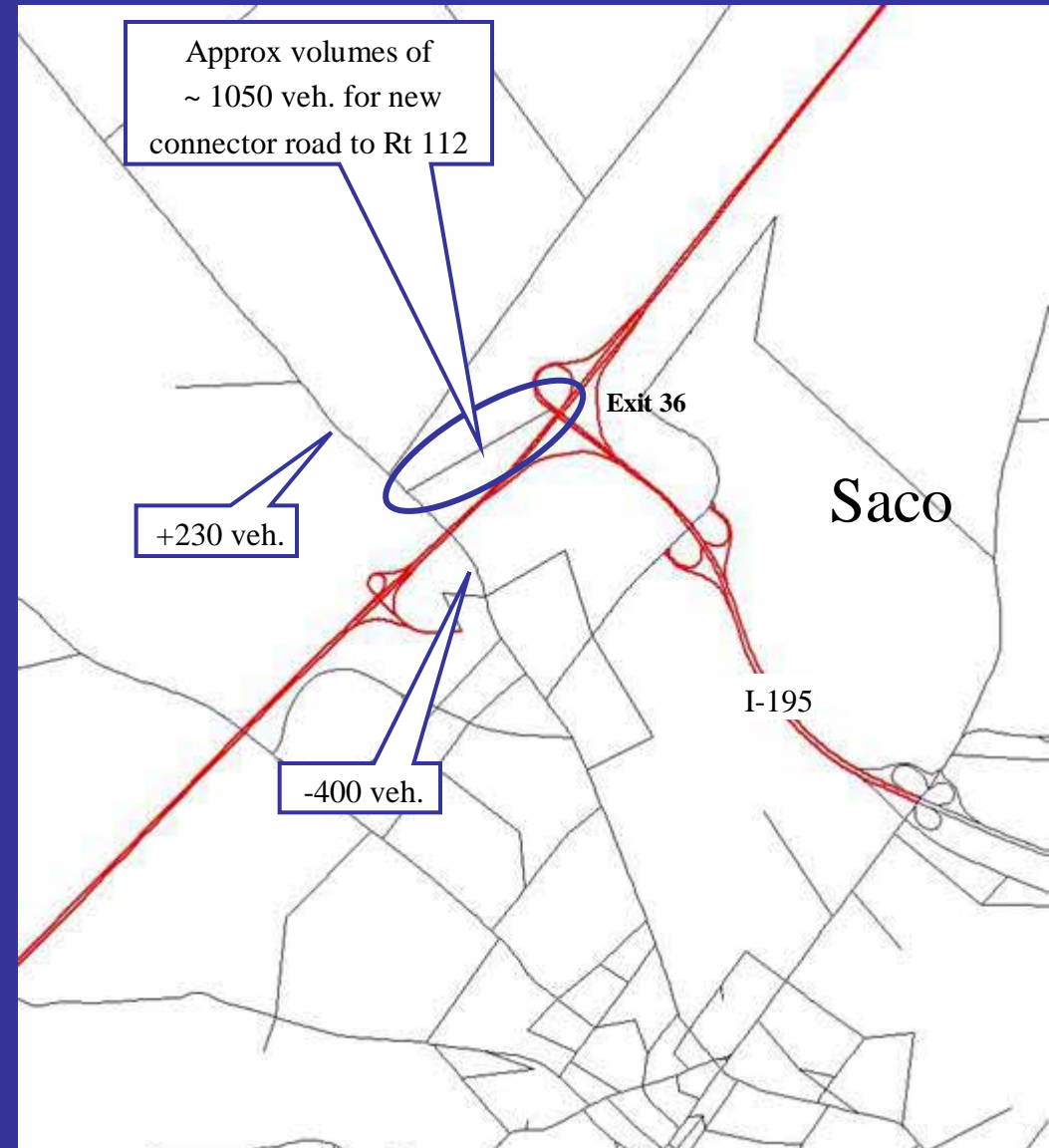
Extend I-195 through Turnpike interchange to Route 112 in Saco; allow full interchange usage by Route 112 traffic.

Purpose:

New Turnpike/I-195 accessibility to growing residential and industrial areas.
Reduce demands on/reduce congestion at I-195 & Route 1.

Benefits/Impacts:

Complementary Actions:



Total Volumes: Two direction;
Comparisons to 2025 No Build

All volumes pm peak hour.

Alternatives Analysis

Interstate #2: I-295 Related

Strategy:

Expand north Freeport I-295 interchange to full interchange (full NB/SB I-295 access)

Purpose:

Increase accessibility to north Freeport; relieve traffic at southerly interchanges.

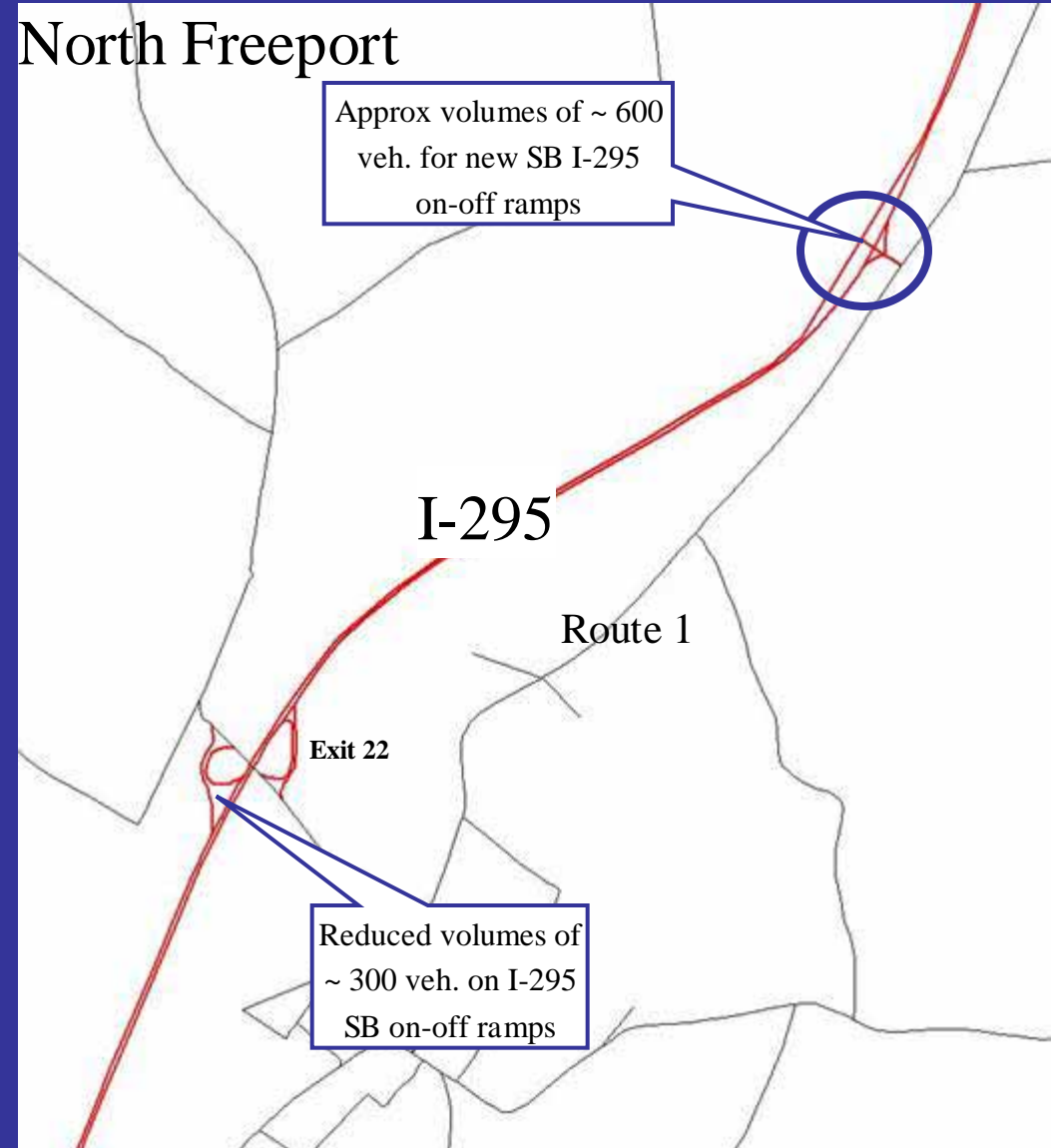
Benefits/Impacts:

PM Peak hour usage of new on/off ramps for SB I-295 = 600 vehicles;
Reduces Exit 22 SB I-295 ramps peak hour volumes by almost 300 vehicles.

Complementary Actions:

All volumes pm peak hour.

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**Total Volumes: Two direction;
Comparisons to 2025 No Build**

Alternatives Analysis

Interstate #2: I-295 Related

Strategy:

New I-295 full interchange at Old County Road in Freeport.

Purpose:

New interstate access to growing commercial So. Freeport Route 1 area.
Reduce demand at other nearby interchanges.

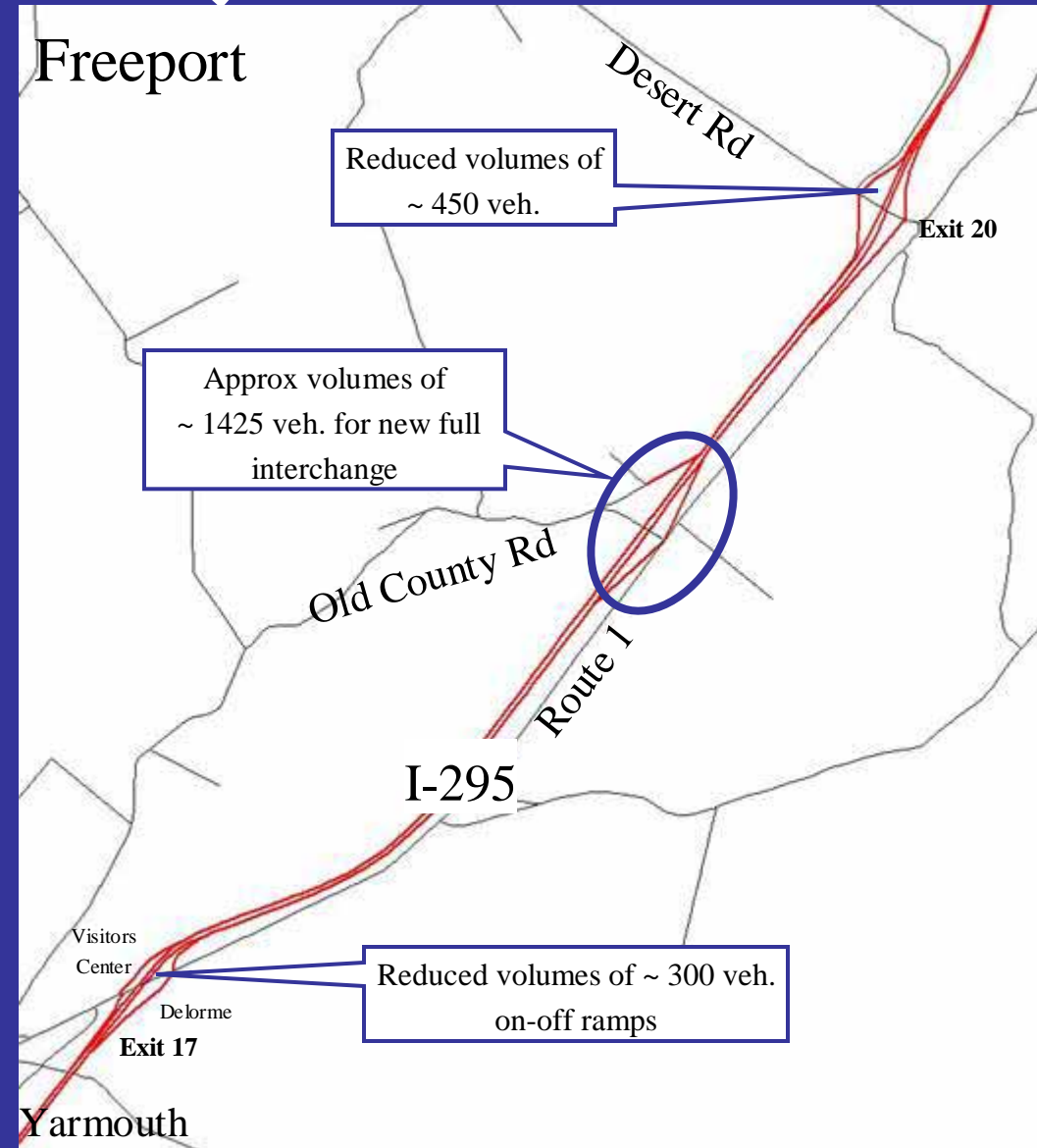
Benefits/Impacts:

Reduces volumes at stressed interchange location in Freeport & Yarmouth

Complementary Actions:

All volumes pm peak hour.

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**Total Volumes: Two direction;
Comparisons to 2025 No Build**

Alternatives Analysis

Interstate #2: I-295 Related



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Strategy:

New I-295 full interchange at Tuttle Road in Cumberland;

New I-295 NB on-ramp at Exit 18 in Yarmouth

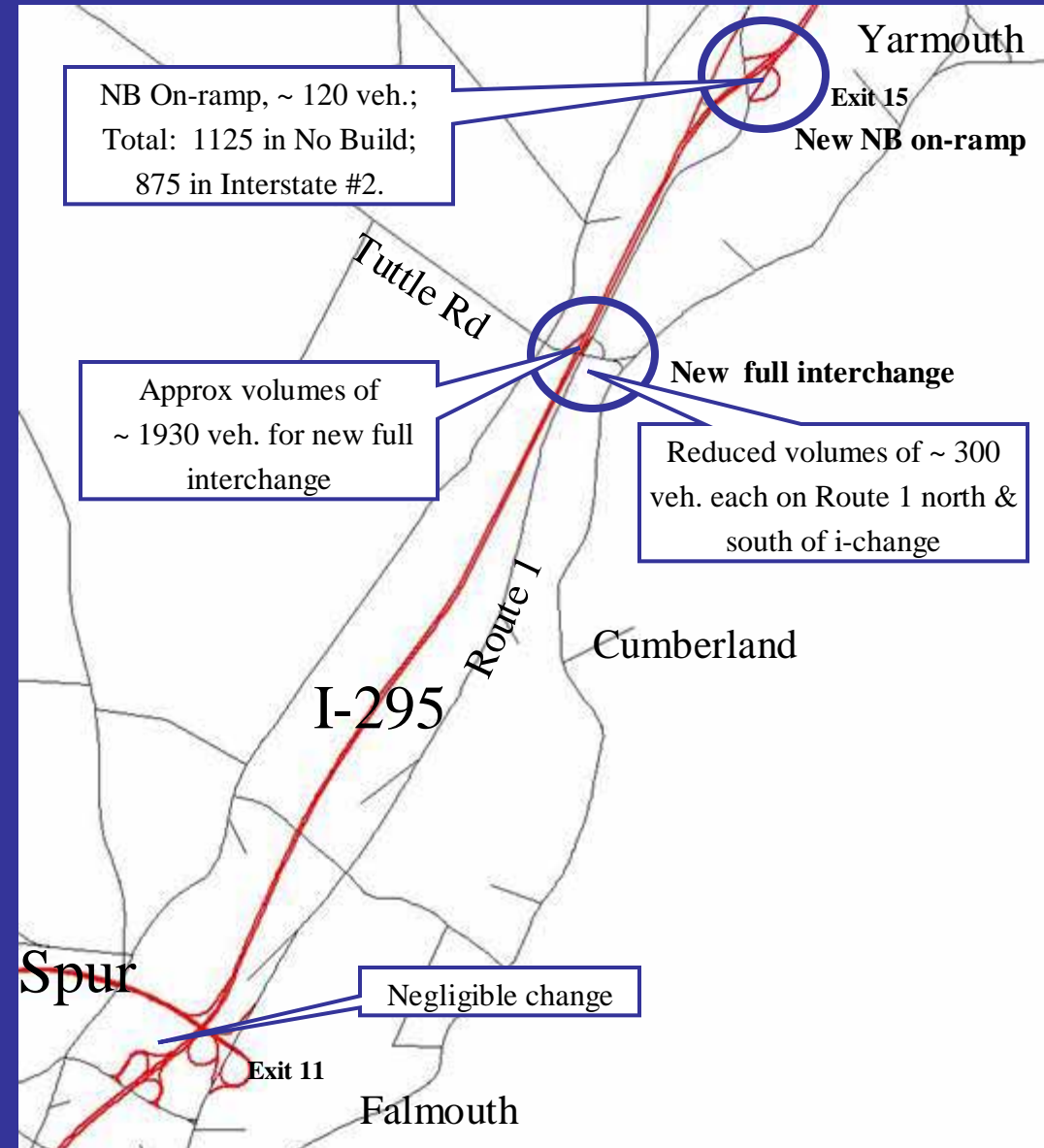
Purpose:

New access to commercial and residential developing area of Route 1 in Cumberland. Full accessibility to existing interchange in Yarmouth (potential vicinity of train station).

Benefits/Impacts:

Complementary Actions:

All volumes pm peak hour.



Total Volumes: Two direction;
Comparisons to 2025 No Build

Alternatives Analysis

Interstate #2: I-295 Related

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Strategy:

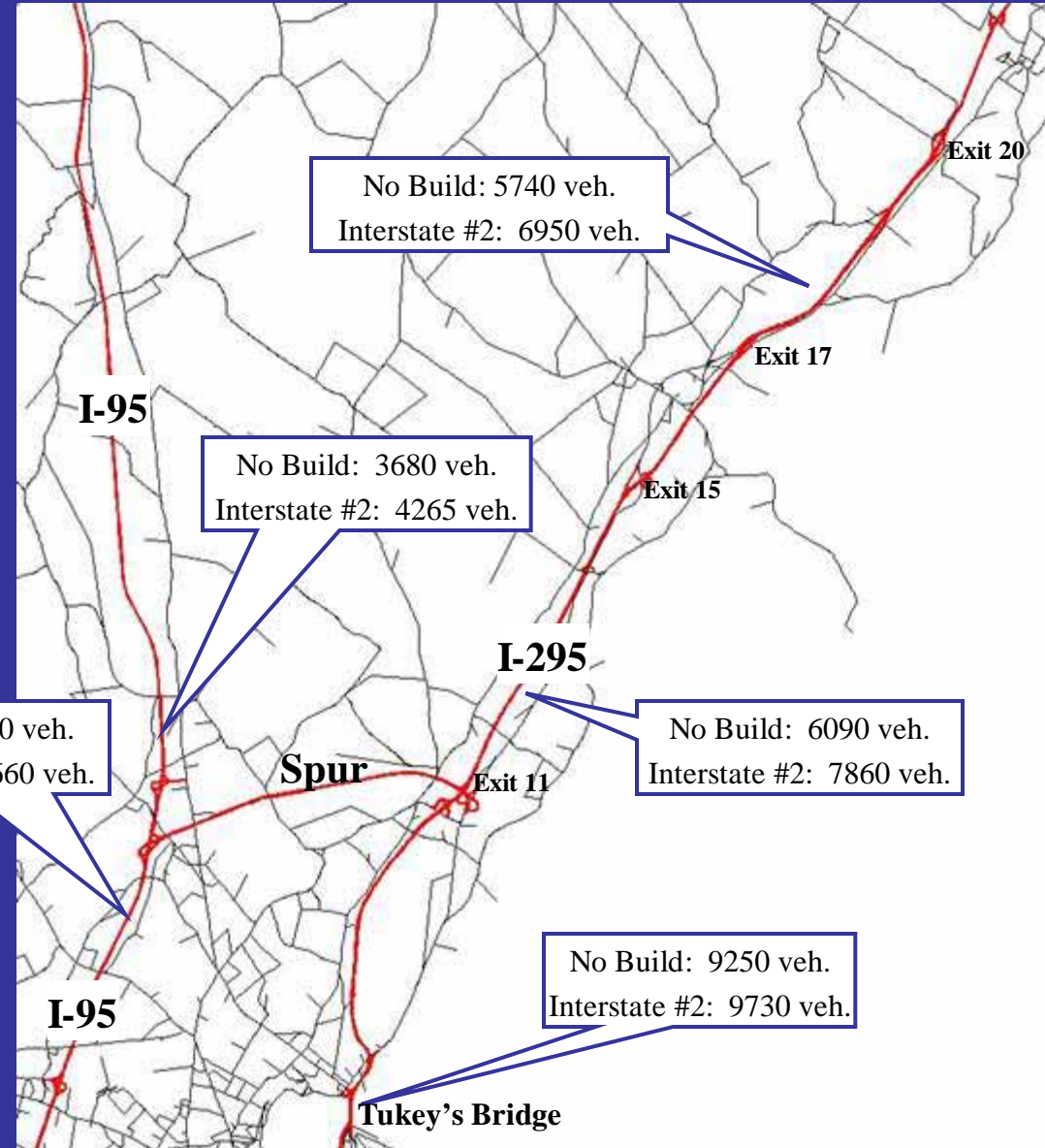
Widen I-295 to six lanes from Tukey's Bridge to Brunswick; increase capacity from 6400 veh./hour to 9600 veh./hour

Purpose:

Improve peak hour Level of Service (forecasted to be LOS E in 2025); improve safety.

Benefits/Impacts:

Complementary Actions:



Total Volumes: Two direction; Comparisons to 2025 No Build

All volumes pm peak hour.

Alternatives Analysis



Arterial: New & Widened Arterial Roadways

Strategy:

New Lakes Region Connector Road to Route 302 from Maine Turnpike

Purpose:

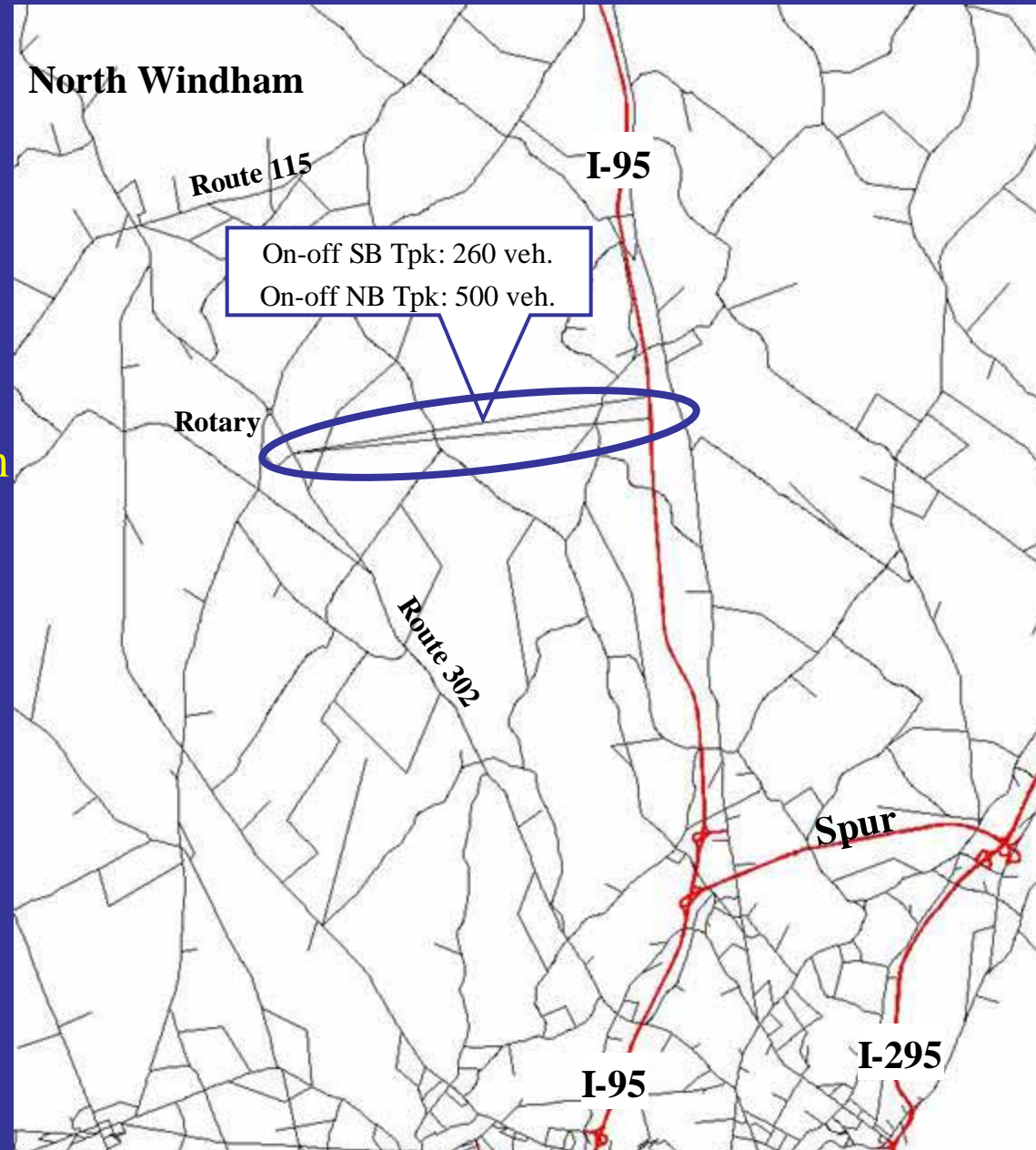
Provide E-W access to Lakes Region from Maine Turnpike;
Reduce Route 302 seasonal traffic backups.

Benefits/Impacts:

Peak tourist season volumes potentially 40%+/- higher than typical weekday peak hour.

Complementary Actions:

All volumes pm peak hour.



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Total Volumes: Two direction;
Comparisons to 2025 No Build

Alternatives Analysis

Arterial: New & Widened Arterial Roadways

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Strategy:

Widen Route 115 to four lanes from North Windham/ Route 302 to Falmouth Road

Purpose:

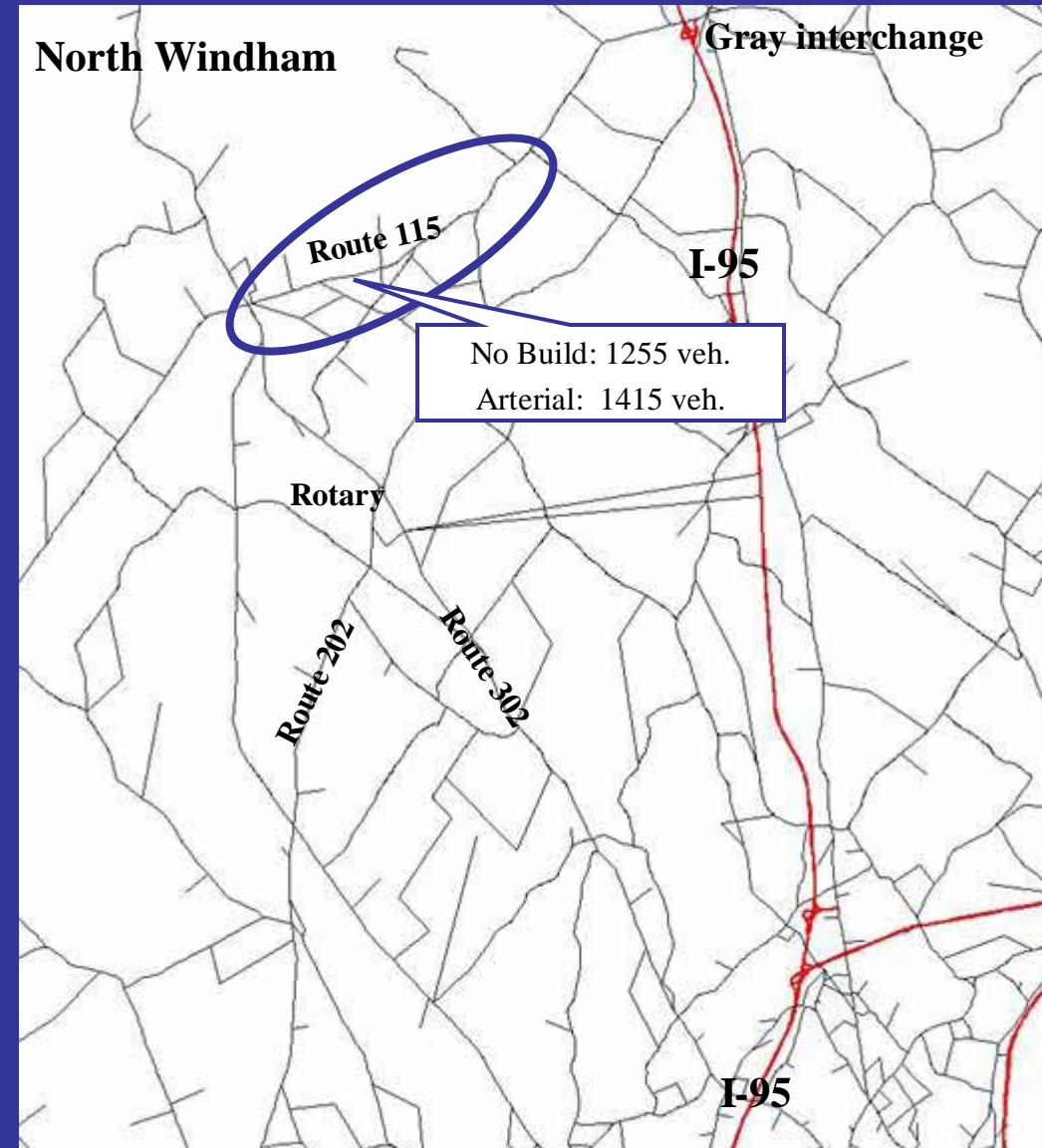
Improve access to North Windham and Maine Turnpike in Gray.

Benefits/Impacts:

Widened road attracts ~ 60 additional vehicles.

Complementary Actions:

Benefits may be diluted by Lakes Region Connector.



Total Volumes: Two direction

All volumes pm peak hour.

Alternatives Analysis

Arterial: New & Widened Arterial Roadways

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Strategy:

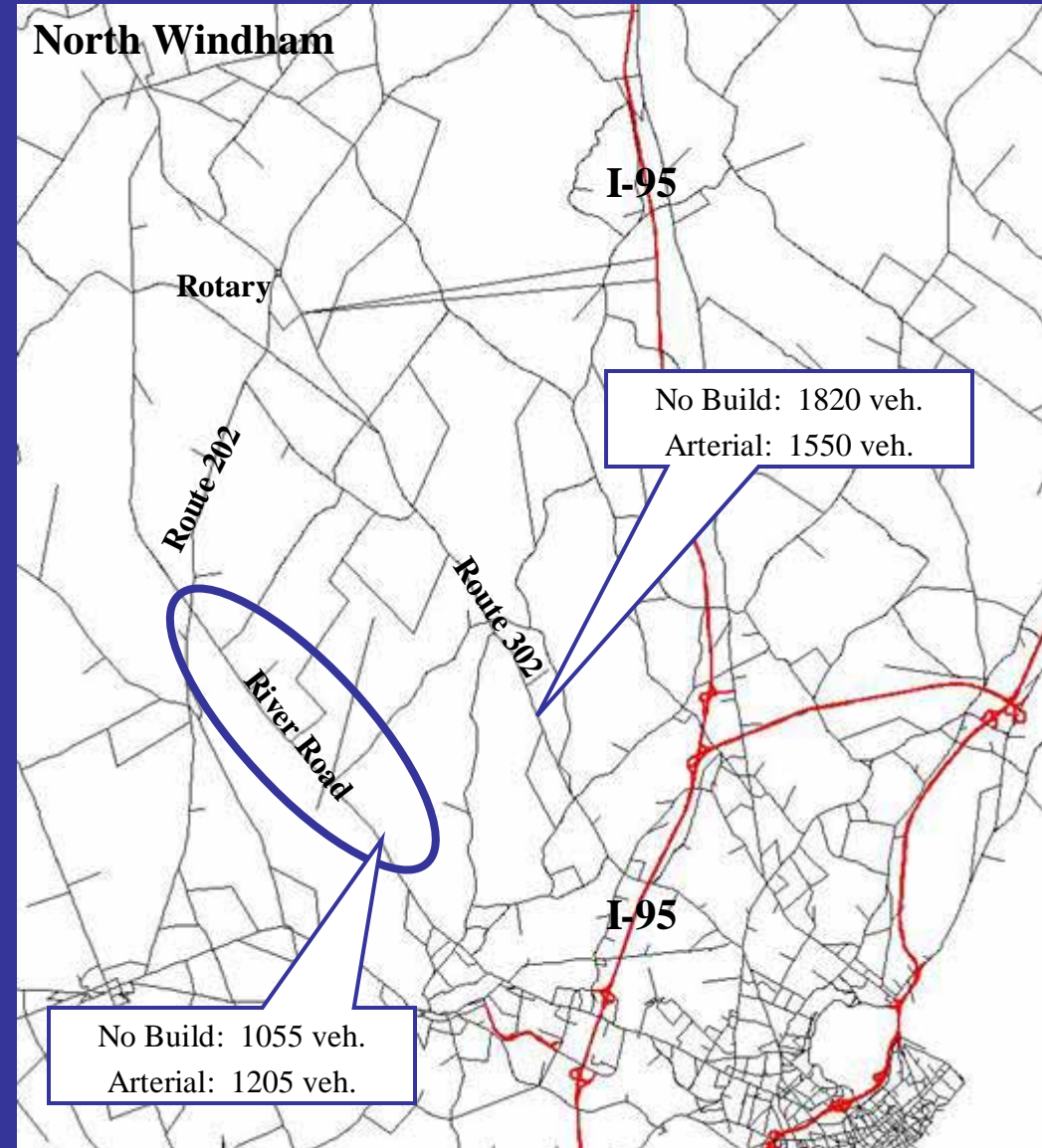
Widen River Road In Windham to four lanes from Route 202 to Westbrook City Line

Purpose:

Reduce delays; improve safety.

Benefits/Impacts:

Complementary Actions:



Total Volumes: Two direction

All volumes pm peak hour.

Alternatives Analysis

Arterial: New & Widened Arterial Roadways

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Strategy:

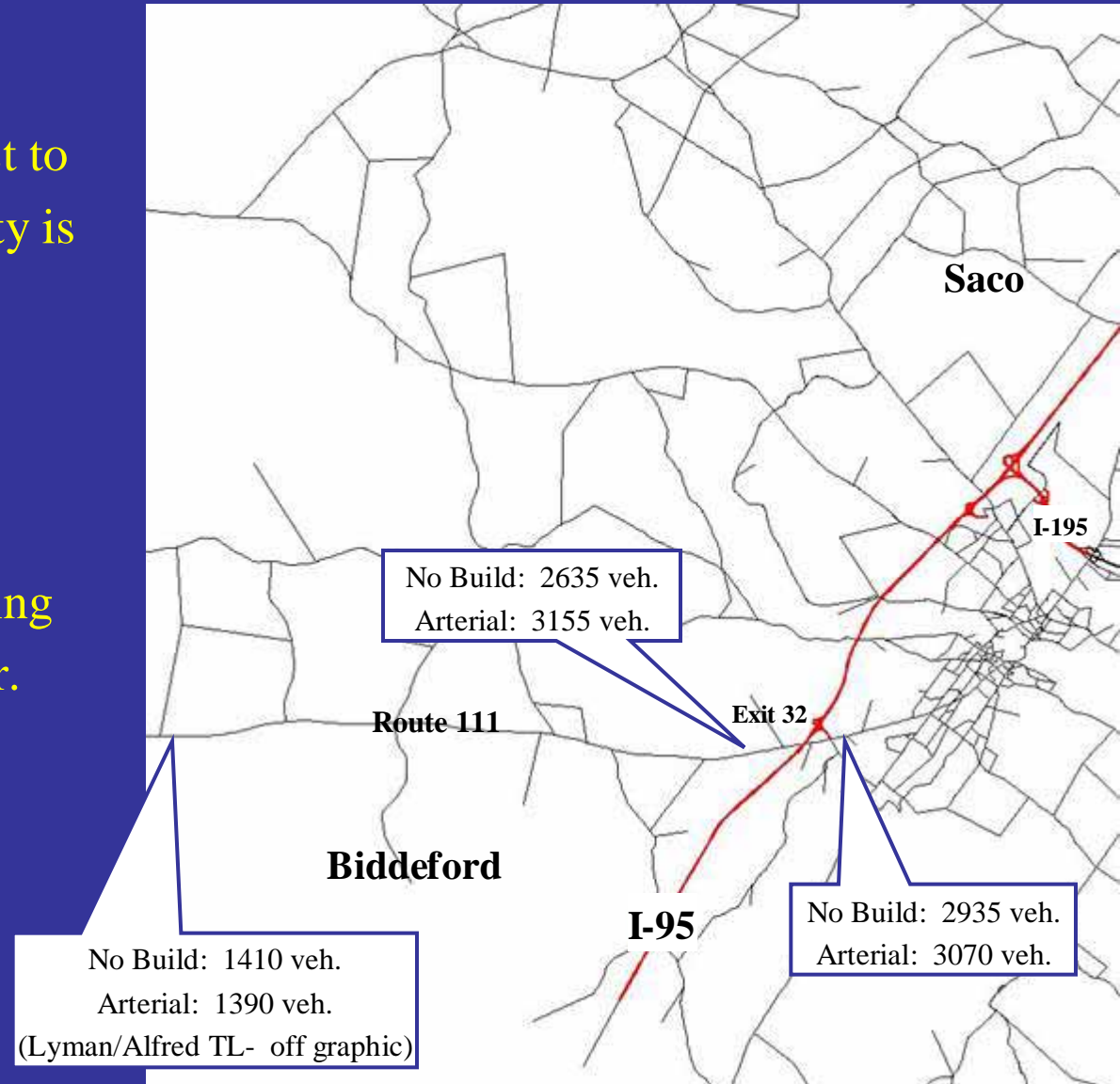
Widen Route 111 Biddeford and west to four lanes from Route 1; total capacity is doubled to 6200 vehicles per hour.

Purpose:

Reduce delays; improve safety; accommodate future growth in growing commercial/retail/employment center.

Benefits/Impacts:

Complementary Actions:



Total Volumes: Two direction

All volumes pm peak hour.

Alternatives Analysis

Arterial: New & Widened Arterial Roadways

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Strategy:

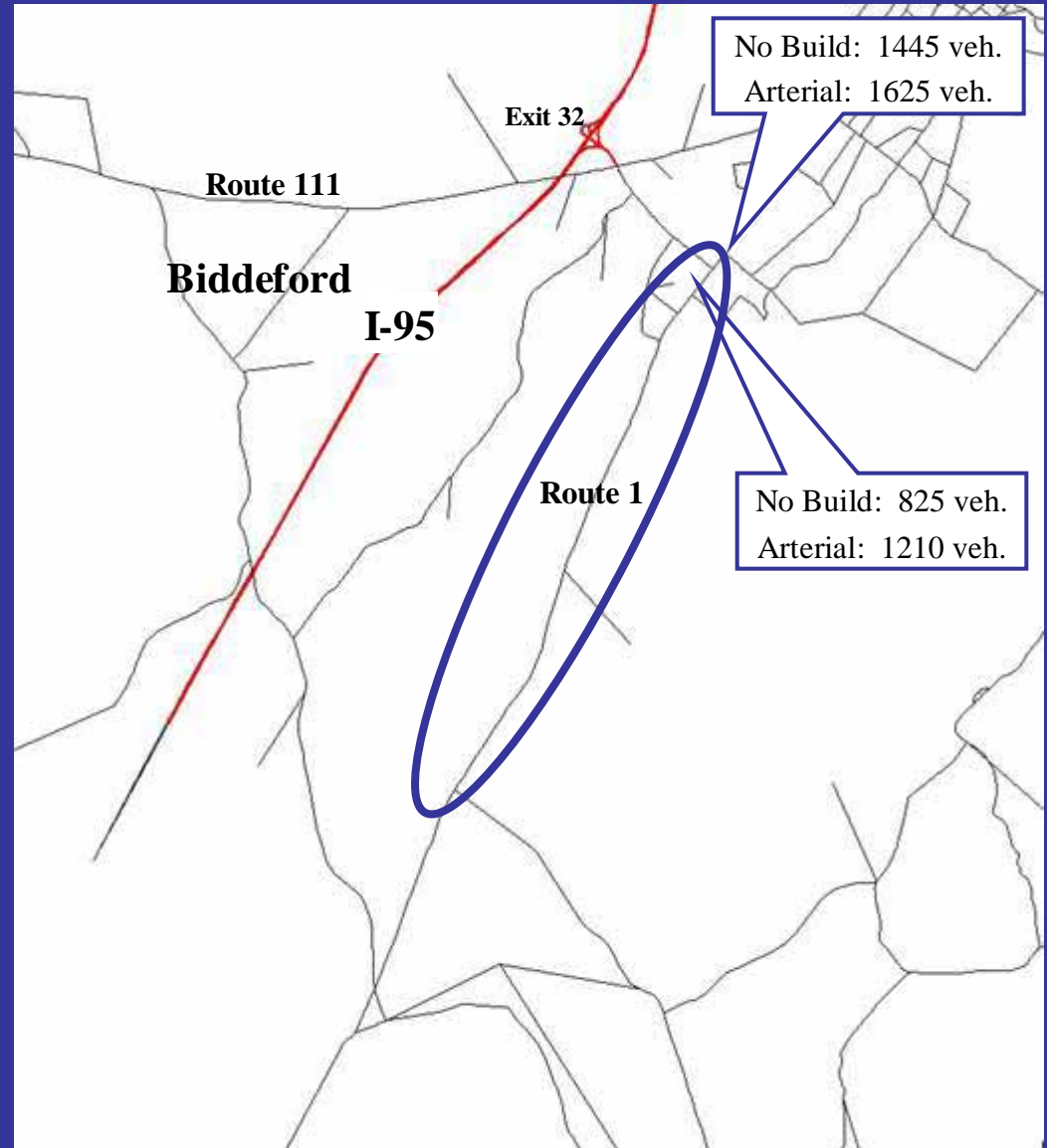
Widen Route 1 in Saco to four lanes
Precourt to Campground; total capacity is doubled to 4800 vehicles/hour.

Purpose:

Reduce delays; improve safety.

Benefits/Impacts:

Complementary Actions:



Total Volumes: Two direction

All volumes pm peak hour.

Alternatives Analysis

Arterial: New & Widened Arterial Roadways

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Strategy:

Widen Route 112 in Saco from Jenkins to Shadagee; new capacity doubles to 3300 vehicles per hour.

Purpose:

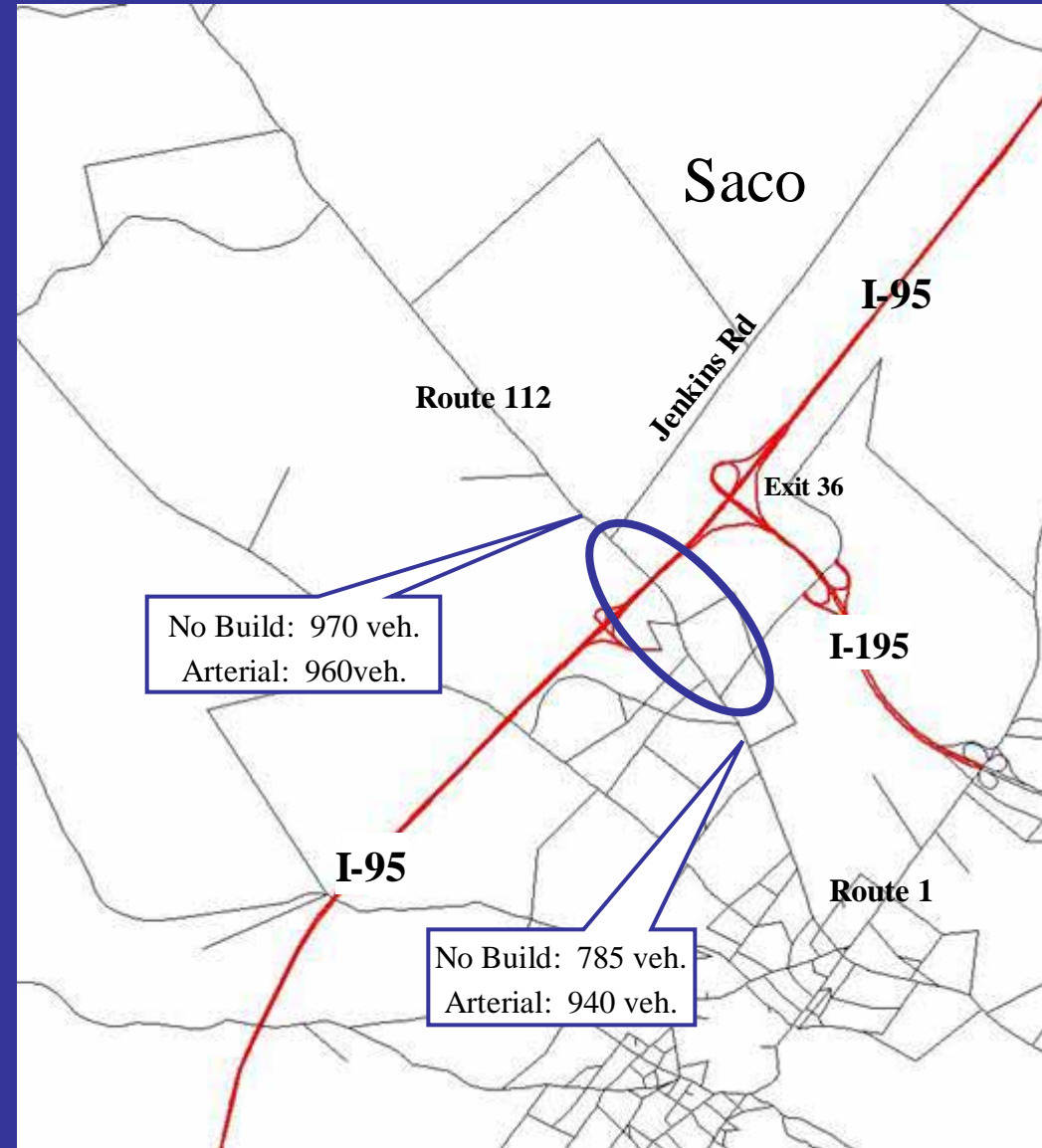
Reduce delays; improve safety.

Benefits/Impacts:

Possibly/likely intersection capacity is limiting rather than segment capacity.

Complementary Actions:

Potential extension of I-195 to Route 112 (in Package #1).



Total Volumes: Two direction

All volumes pm peak hour.