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Yarmouth Route 28 – Living Streets Study

Final Recommendations

Presentation to Yarmouth Board of Selectmen

November 19, 2013

This presentation



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- **Background Information**
- **Work to Date**
- **Findings**
- **Initial Recommendations**
- **Planning Board Suggestions**
- **Next Steps**

Study Area



GOALS OF THIS STUDY:

CCC for MASS DOT Unified Planning (UPWP) TASK 3.3



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- **Reduce conflicts, improve traffic flow** and incorporate multi-modal transportation options along the Route 28 corridor
- Further the creation of **vibrant, mixed-use centers** along the roadway.
- Provide **safe accommodation of pedestrians and bicycles**
- Incorporate **Low Impact Development (LID) techniques to mitigate stormwater runoff.**
- Establish a **preferred roadway redesign** which addresses the above and reflects a planning window of 2033.
- Ensure preferred alternatives are transferrable to a Massachusetts Department of Transportation (MassDOT) Project Need Form (PNF) and Project Initiation form (PIF) at project completion.

Work to Date



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- Kickoff Taskforce Meeting
- Data Collection/Site Visits
- Mapping and Analysis
- Identification of Opportunities
- Focus Group Meetings
- Planning Board Presentation of Interim Concepts
- Board of Selectmen Endorsement of Concepts
- Refinement and Technical Review
- **Final Reporting**

Findings & Considerations

- Crash History and Level of Service
- Bike & Pedestrian connectivity
- Signal performance
- Problematic Intersections
- Community Character goals
- Roadway Constraints
- Stormwater Constraints

Crash History and Level of Service



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-
- Crashes spread along the corridor - related to the many driveways and curb cuts
 - Mainly rear-end crashes, also a significant number of angle crashes
 - High crash totals at the Winslow Gray Road and South Sea Avenue intersections
 - Congestion along the corridor causes failing Level-of-Service at unsignalized locations

Finding: Poor access management combined with high volumes results in corridor-wide safety and congestion issues.

Bike & Pedestrian Connectivity



ROUTE 28 YARMOUTH | *SIDEWALK CONNECTIVITY*

 **SIDEWALK INCOMPLETE OR IMPASSABLE**



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Created by: TR
Reviewed by: GC

Finding: There is a high volume of users- both bike and pedestrian, along the roadway, but poor accommodation. This is a character and a safety issue.

Traffic Signal Performance



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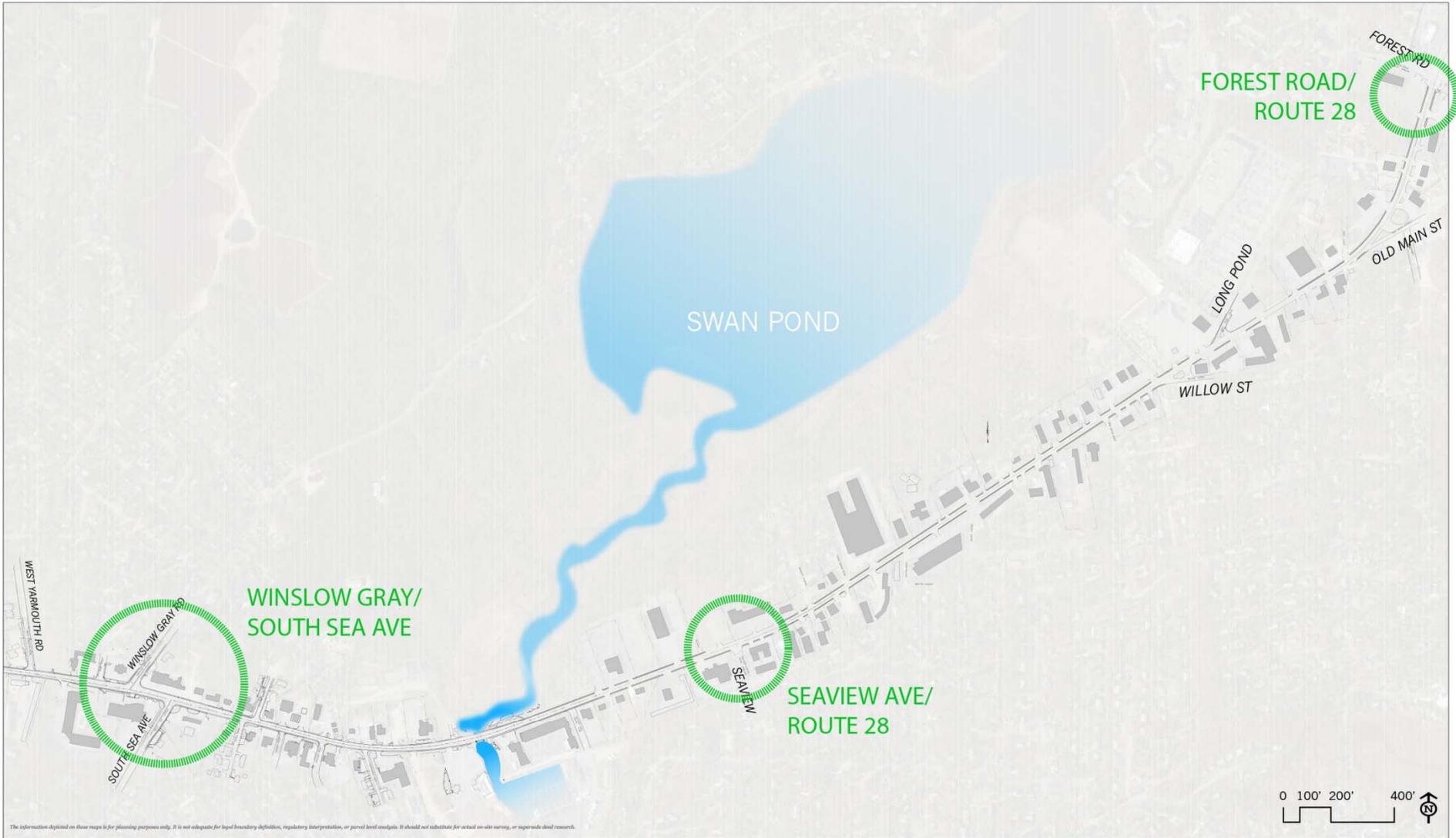


- **All Existing study area Traffic Signal Equipment is limited in effectiveness:**
 - Over 30 years old
 - Timing schemes cannot be optimized
 - Certain detection (loops) areas unavailable
- **Seaview Avenue intersection meets warrants for signalization**
 - Meets 5 warrants* based on various patterns of traffic volumes

* *Manual on Uniform Traffic Control Devices*

Finding: Traffic signal equipment should be upgraded at all intersections within the study area.

Problematic Intersections



ROUTE 28 YARMOUTH | PRIORITY INTERSECTIONS



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Created by: TH
Reviewed by: CC
Source: AutoCAD
modified with GIS

Land Use goals & Community Character

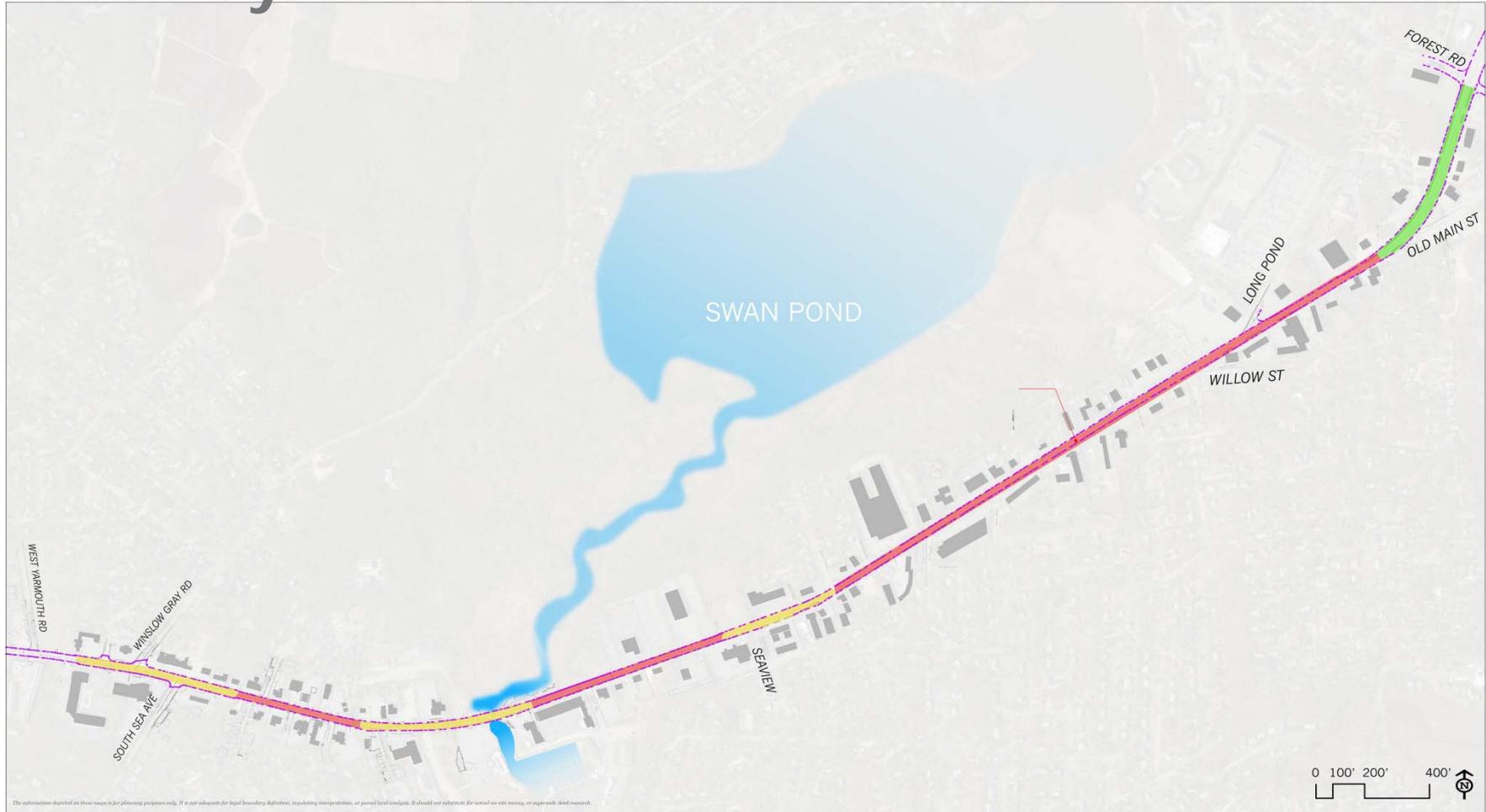


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- Streetscaping is essential to Economic Development and Village Center revitalization goals, as it creates a sense of place. The current sidewalks are disconnected, and much of the road frontage lacks landscaping or tree canopy
- The investment that a community makes in implementing Complete Streets can stimulate private investment, especially in retail districts and downtowns where pedestrians and cyclists feel unwelcome.

Finding: The current roadway is incongruous and disconnected, and does not provide much pedestrian amenity of safe lighting.

Roadway Constraints



ROUTE 28 YARMOUTH | RIGHT OF WAY CONSIDERATIONS

-  APPROXIMATE ROW BOUNDARY
-  40 FEET ROW
-  50 FEET ROW
-  80 FEET ROW



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Created by: TFC
Reviewed by: SAC
Source: State of CA
modified with GIS

Finding: State Right of Way is constrained to 40' in most areas, and improvements beyond the current configuration would require takings.



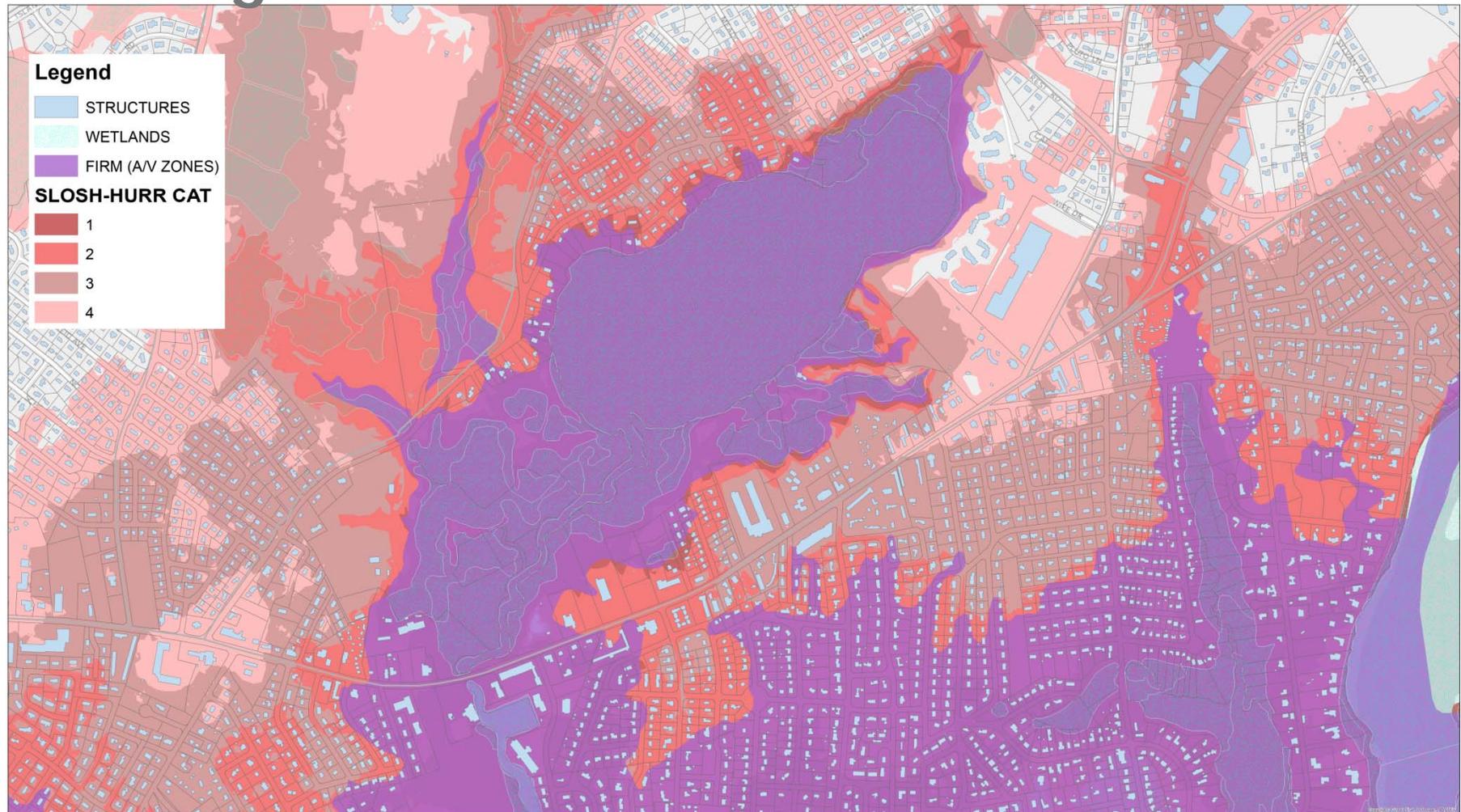
Route 28 Yarmouth | Potentially Affected Properties



Findings:

- Utilities present conflict primarily on North Side
- North side properties have higher ratio of buffered frontage to parking in front
- Greater # of takings would be required east of Parkers River Bridge

Flooding Considerations



Route 28 Yarmouth | STORM INUNDATION AND FLOOD POTENTIAL

0 0.15 0.3 0.6 Miles



Finding: The entirety of the study area lies in an area subject to inundation. Increasing pervious surface and landscaping would improve road safety by decreasing the risk of standing water.

Initial Recommendations: All Concepts

As presented to Yarmouth Planning Board 10/16

- 50' Streetscape cross section in selected areas
- Potential Realignment at Winslow Gray/South Sea Ave.
- Signal Upgrade and coordination at Forest Road
- Signalization of Seaview Avenue.

Improving the cross section of the roadway:

Improve/expand to accommodate bike/pedestrian safety, community character

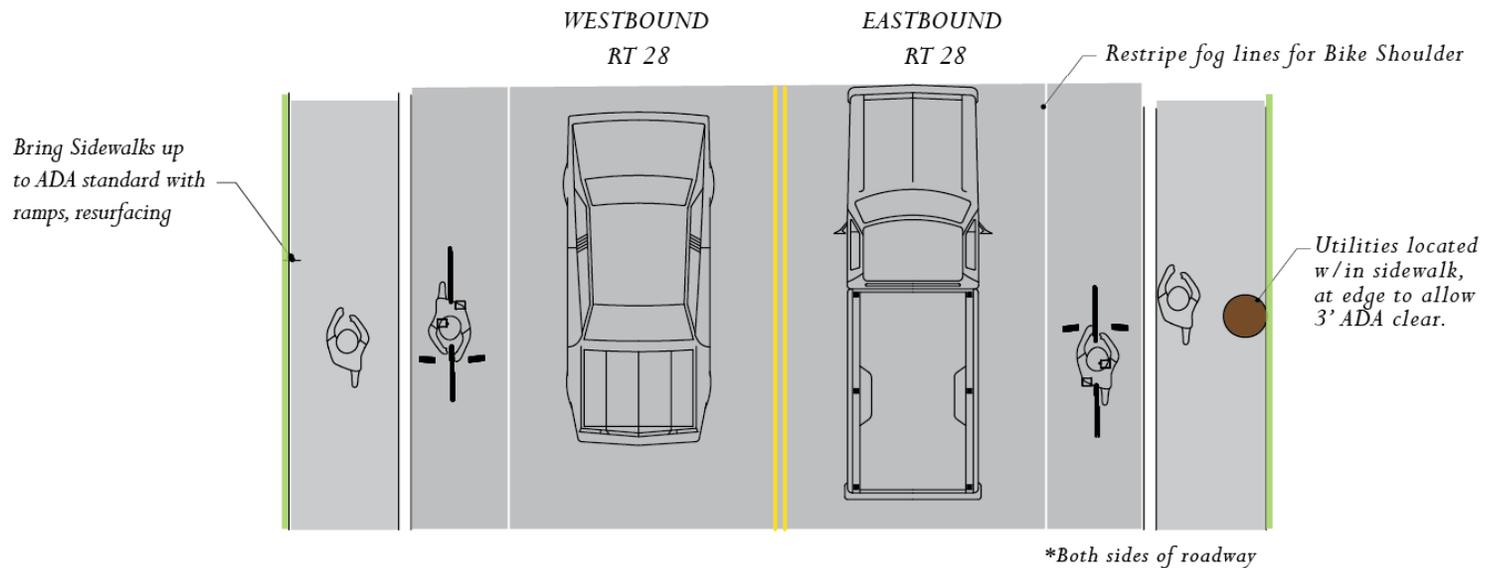
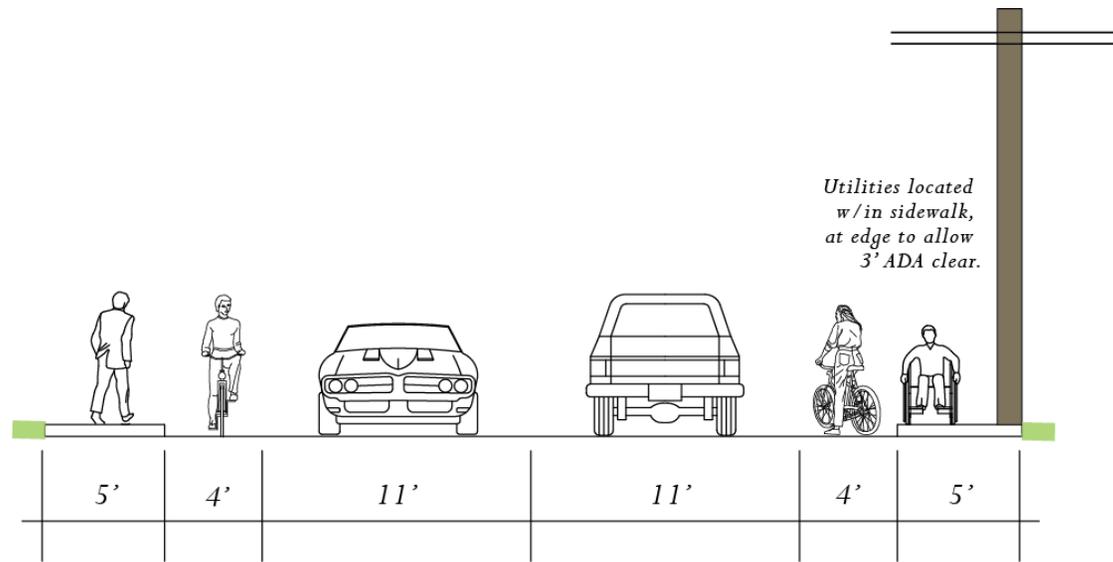


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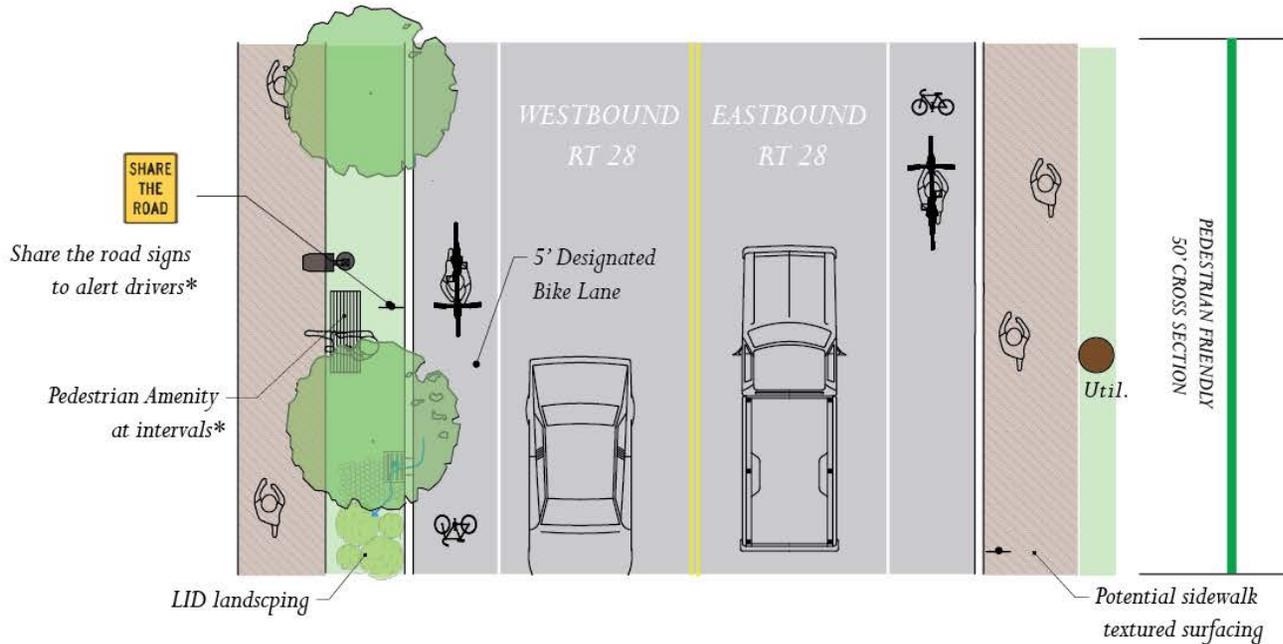
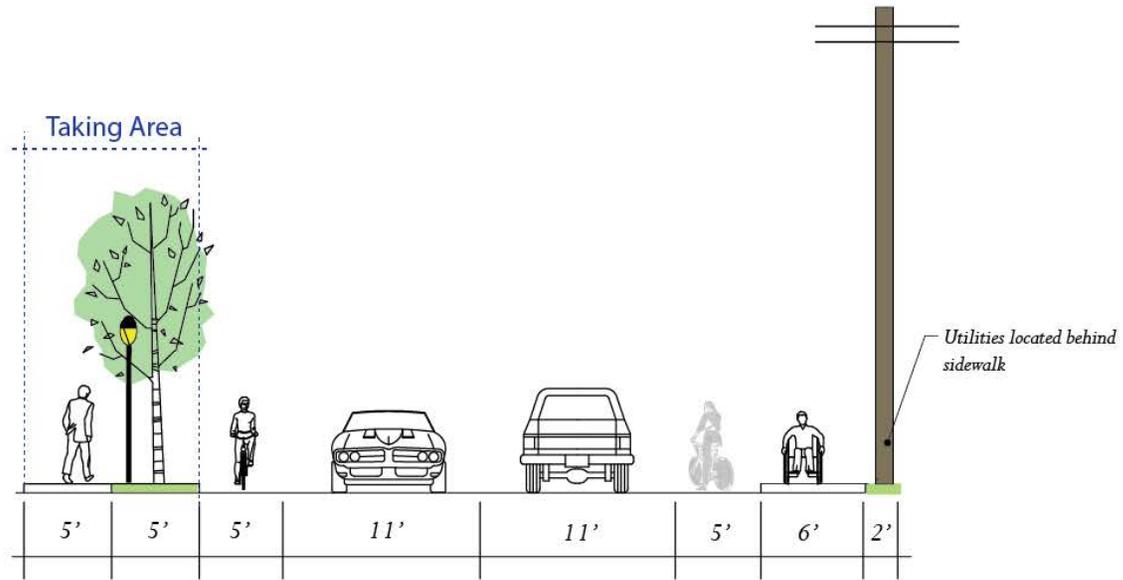
- **Current Road layout at 40' in most areas, 50' at turning lanes.**
- **Current Road layout would require ADA upgrades to accommodate bike/ped. *See left***
- **Any expansion above the 40' ROW would require takings.**
- **MassDOT has right to take land, or pay a fee taking.**
- **Strip takings evaluated at an average of \$6 per square foot**

Easiest Fix:
 Upgrade all sidewalks to ADA standards & restripe roadway for bikes, maintaining the existing Right of Way



Streetscape Option A:

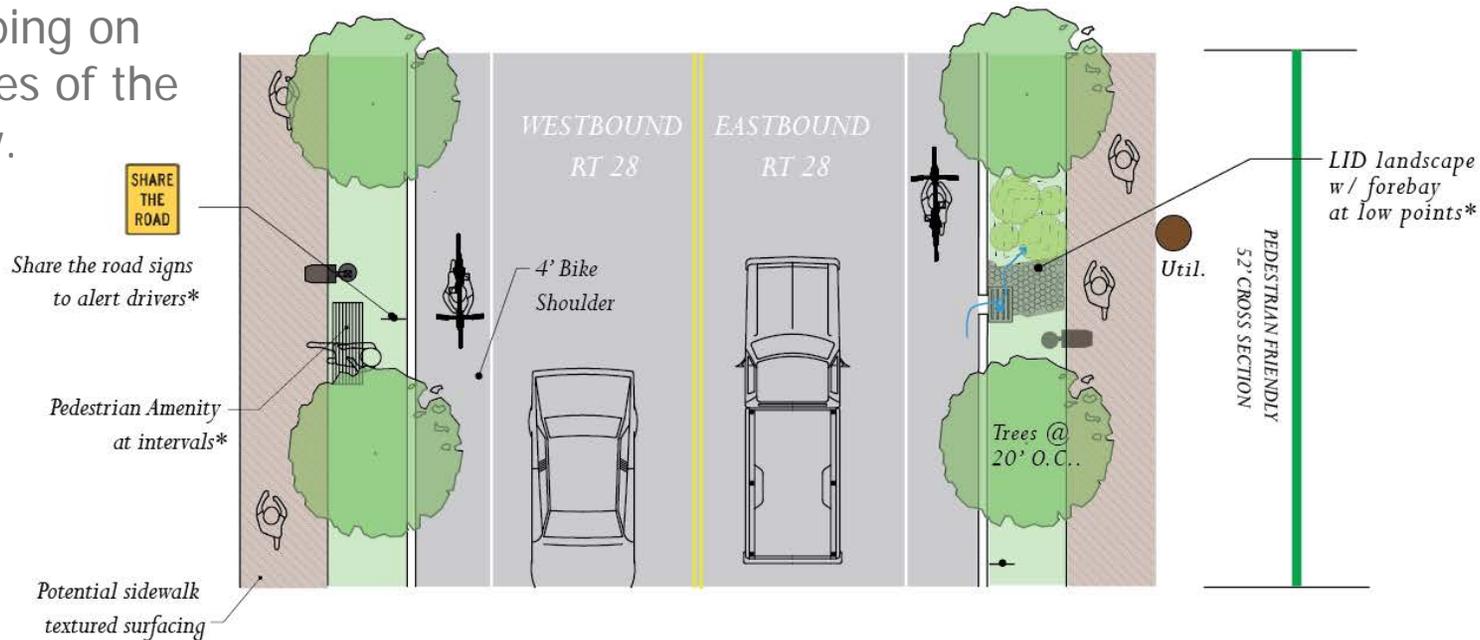
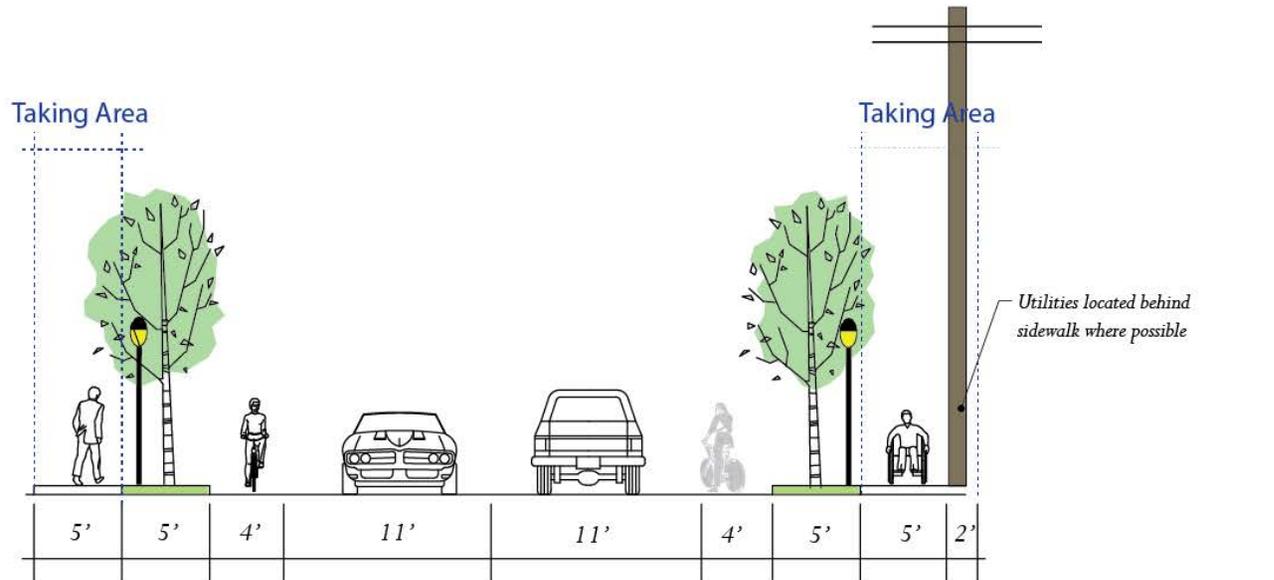
Expand Right of Way in select areas with strip takings to accommodate landscaping on South side of the roadway.



Rt 28 Yarmouth
PROPOSED OPTION B: +/-50' STREETScape LAYOUT

Streetscape Option B: *Endorsed by YPB 10/16*

Expand Right of Way with strip takings in select areas to accommodate landscaping on both sides of the roadway.



Rt 28 Yarmouth
PROPOSED OPTION A: +/-52' STREETScape LAYOUT

Estimated Street Cross Section Costs:

Expand to Accommodate Bike/Ped, Community Character
 (Costs per mile – West Yarmouth Rd to Forest Rd = 1.7 mi.)



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Order of Magnitude Cost of Resurfacing/ Sidewalk upgrades for ADA compliance (keeping w/in ROW):	\$1.7 Million	Per Mile
Order of Magnitude Cost of expansion to 50' with green strip on one side , ADA sidewalks, resurfacing and strip taking (assumes \$6/s.f. for takings):	\$2.3 Million	Per Mile
Order of Magnitude Cost of expansion to 52' with green strip on both sides , ADA sidewalks, resurfacing and strip taking (assumes \$6/s.f. for takings):	\$2.7 Million	Per Mile
Order of Magnitude Cost of Streetlights/Benches/Trash Cans/Signage	\$130,000	Per Mile
Order of Magnitude cost for landscaping over and above MassDOT Standard (LID)	\$20,000	Per Mile

**MassDOT will maintain basic design elements as specified in their design manual, and will not fund or maintain additional amenities, including electricity to privately funded fixtures.*

Winslow Gray/South Sea

Potential Realignment to create gateway, reduce conflict



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Build Option 1

- New traffic signal controller
- Add video detection approaches
- Retime traffic signal
- Add pedestrian- actuated count down signal heads
- Add accessible ramps
- Move sidewalk obstructions or diverting sidewalk around obstructions



The information depicted on these maps is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or plan level analysis. It should not substitute for actual on-site survey, or supersede field research.

Winslow Gray/South Sea

Potential Realignment to create gateway, reduce conflict

Endorsed by YPB 10/16



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Build Option 2

- Realign intersection into a single 4-way intersection
- Keep the number of lanes on each approach the same as existing
- Employ access management strategies to limit curb cuts in the vicinity of the new signal
- Provide full bicycle and pedestrian accommodations
- Consider redevelopment options for the reorganized lots north of Route 28

Note: Graphical depictions of design ideas and are conceptual in nature, further analysis required.

Winslow Gray/South Sea

Potential Realignment to create gateway, reduce conflict



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Build Option 3

- Realign intersection into a single 4-way intersection
- Flare Route 28 approaches to accommodate dedicated left, through, and right lanes
- Employ access management strategies to limit curb cuts in the vicinity of the new signal
- Provide full bicycle and pedestrian accommodations
- Consider redevelopment options for the reorganized lots north of Route 28



The information depicted on these maps is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or ground level analysis. It should not substitute for actual on-site survey, or supersede deed research.

Winslow Gray/South Sea

Potential Realignment to create gateway, reduce conflict



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Build Options	Approx. Cost*	ROW Impacts	Safety Improvement	Congestion Improvement	Bike/Ped Improvement
1 Signal & ADA Upgrades	\$500,000	Minimal - related to sidewalk obstacles	Minimal	Minimal	Ped – Significant Bike - Minimal
2 Realign to single 4-Leg	\$3.0 Million	Reorganization + small strip taking	Significant	Moderate	Significant
3 Realign to single expanded 4-Leg	\$3.5 Million	Reorganization + significant strip taking	Significant (additional conflicts over Option 2)	Moderate (minimal improvement over Option 2)	Significant (additional conflicts over Option 2)

*Approx. cost does not include Right-of-Way (ROW) costs

Forest Road and Seaview Ave.

Proposed upgrades and signalization



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-
- **Seaview Avenue: Install traffic signal.** Estimated cost including signal heads, controllers, detection, lane markings, crosswalks, etc.: \$1.5 Million
 - **Forest Road: Upgrade of signal equipment including new signal heads, controllers, some additional detection: \$500,000**
 - **Forest Road: Allow Right Turn on Red.**
 - 12%+ reduction in delay
 - Modify pedestrian phase from exclusive to concurrent
 - May compromise safety if bicyclist & pedestrian activity increase

Additional Recommendations

- Stormwater Mitigation
- Bus Accommodation
- Access Management

Planning Board Suggestions for Phased Approach 11/7/13

Planning Board Recommendations



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- A combination of all recommendations for entire study area results in a funding request of approximately **\$5 to \$11 million**
- The approximate Transportation Improvement Program (TIP) budget for Cape Cod is 7.5 million, with the average project at **\$3-4 million**
- Phased approach **breaks the project into subcomponents** that could spread over several TIP years

Planning Board Recommendations: **Phase I**



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Phase 1 Project –Winslow Gray/South Sea Intersection:

*a. Request the Cape Cod Commission develop a Phase 1 project for Option 2 showing a **realigned, signalized Winslow Gray/South Sea intersection incorporating an Option B streetscape section with tree belts throughout the project.** The eastern and western limits of the streetscape improvements will be dependent upon remaining within the \$3.5 million budget.*

*b. Request that the Cape Cod Commission **show in more detail the impacts associated with strip takings** for the Phase 1 project.*

Preferred Alternative for Re-alignment



Existing Conditions : Looking east



Potential Conditions : Looking east



Re-development potential on newly created parcels

Re-aligned Intersection to reduce driver confusion

Dedicated Turn lanes

Tree belts to continue through Drive In Site

Dedicated Bike lanes

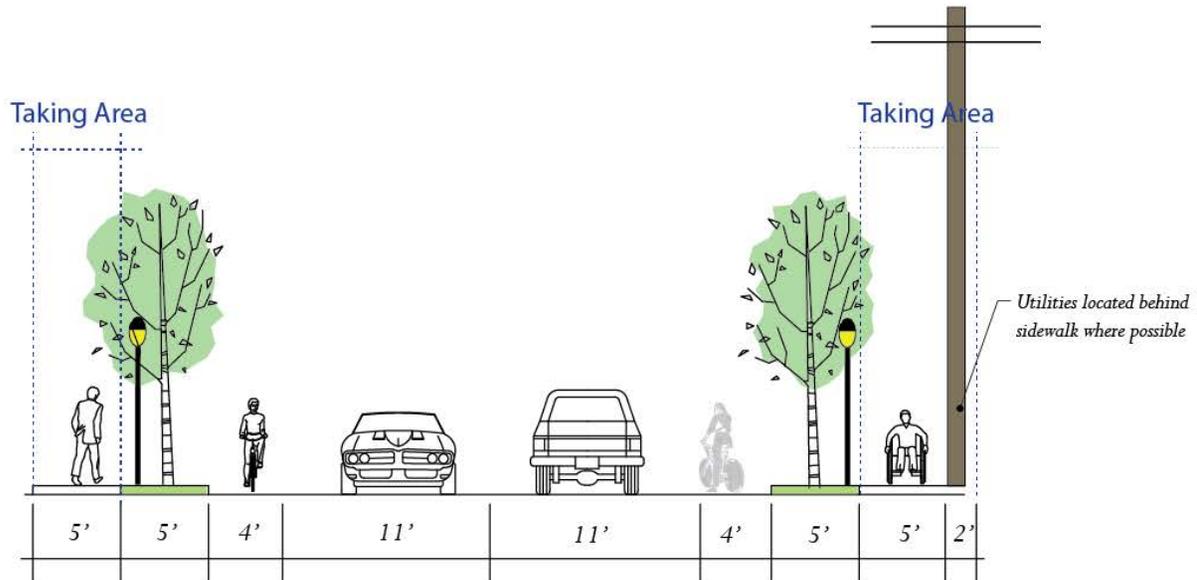
Streetscape Option B: *Endorsed by YPB 10/16*

Expand Right of Way from
realigned
Winslow Gray
to **Bridge** with
strip takings to
accommodate
landscaping on
both sides of
the roadway.

Share the road signs
to alert drivers*

Pedestrian Amenity
at intervals*

Potential sidewalk
textured surfacing



SHARE
THE
ROAD

WESTBOUND
RT 28

EASTBOUND
RT 28

4' Bike
Shoulder

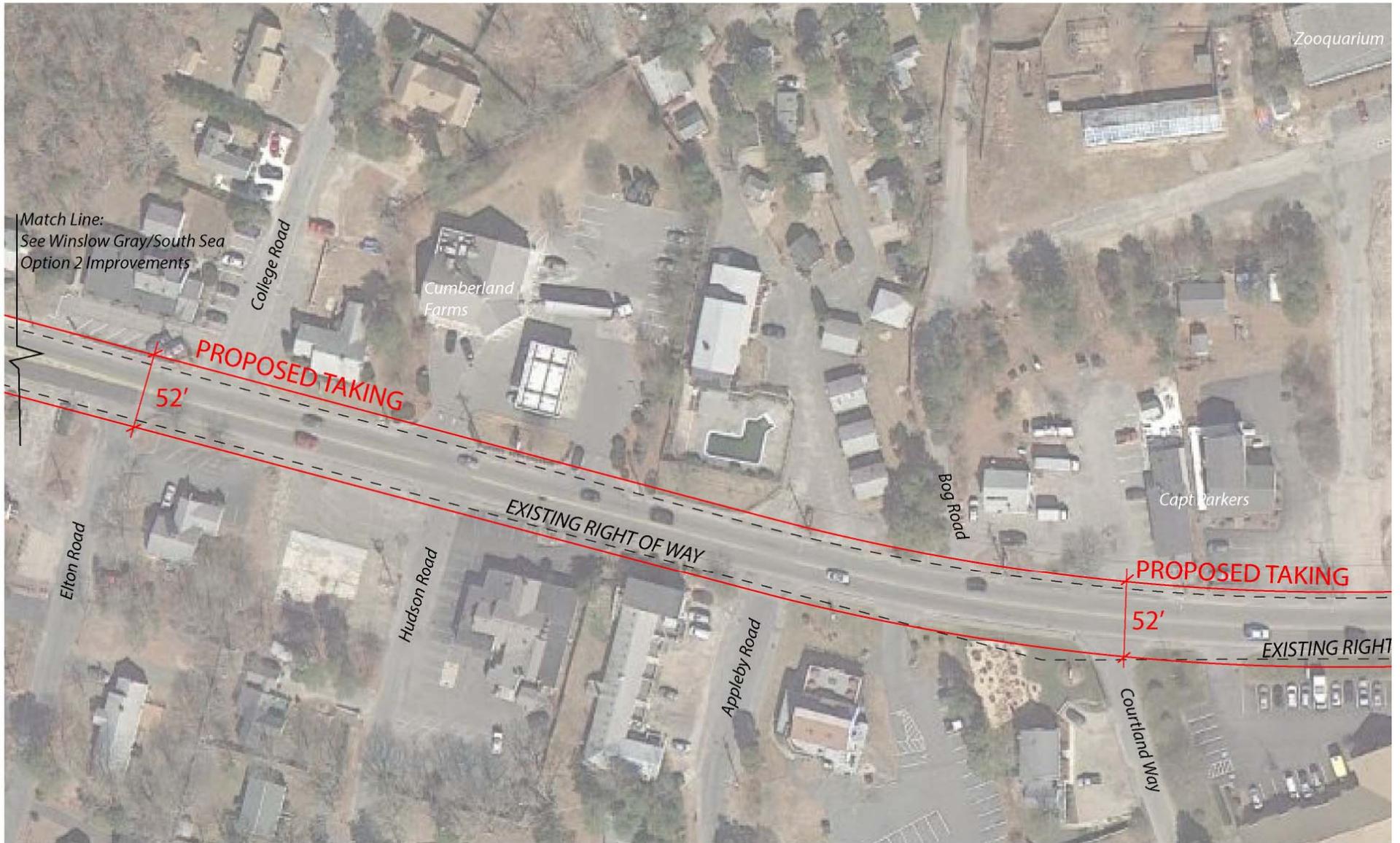
Trees @
20' O.C.

Util.

PEDESTRIAN FRIENDLY
52' CROSS SECTION

LID landscape
w/ forebay
at low points*

Rt 28 Yarmouth
PROPOSED OPTION A: +/-52' STREETSCAPE LAYOUT



Approximately 1/4 mile/\$500,000 of roadway upgrades,
Including approximately 45,000 SF of strip takings



Approximately 1/4 mile/\$500,000 of roadway upgrades,
Including approximately 45,000 SF of strip takings

Planning Board Recommendations: **Phase I**



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Phase 1 Project –Winslow Gray/South Sea Intersection:

*c. With assistance from the Cape Cod Commission, complete a **Project Need Form (PNF)** for submission to MassDOT. This would open further dialogue with MassDOT and could include public outreach and informational meetings. If there is local support, the project could then advance to a Project Initiation Form (PIF).*

*d. **Town staff to continue negotiations with the property owner** of Great Island Plaza for acquisition of two parcels necessary for the realignment of Winslow Gray Road. If the Town is unable to secure these parcels for the realignment, Option 1 upgrades to the signals and Option B streetscape improvements should be pursued.*

Proposed Town Investment



Potential Land Value after Re-alignment



Planning Board Recommendations: **Phase II**



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Phase 2 Project –Seaview Avenue Signalization and Forest Road Signal Upgrade:

- a. Install traffic signals and green belts at the Seaview Avenue intersection. (\$1.5 million)*

- b. Upgrade the signal equipment at the Forest Road intersection. (\$500,000)*

Planning Board Recommendations: **Phase III**



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Phase 3 Project – Streetscape Improvements:

Depending on costs, streetscape improvements may need to be phased over multiple years. The following outlines priority sections.

*a. **Phase 3a:** Complete streetscape improvements from the Winslow Gray intersection to the Seaview Avenue intersection.*

*b. **Phase 3b:** Complete streetscape improvements from the Seaview Avenue intersection to Willow Street.*

Next Steps



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*Draft Report to MassDOT will be made public in next few weeks,
Final report to follow 30 day comment period*

Step 1: *Looking for BOS to:*

- Approve the phased concept
- Approve phase 1 for further investigation/PNF
- Direct town staff to continue to work with the landowners and consultants to obtain the necessary parcels, further evaluation of the impacts to individual lots, and investigate potential funding stream.

Next Steps



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Step II:

- Secure funding through the Town meeting process
- Continue discussion with landowners, and hire a real estate consultant for pro forma analysis & appraisal.
- Complete interim steps to improve the quality of the roadway character
- Complete draft Project Notification Form (PNF) from CCC and submit to MassDOT

Process: PNF -->PIF --> MassDOT Review --> Issuance of Project # to be TIP eligible --> MPO process to secure place on the Transportation Improvement Projects (TIP) list

Next Steps



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Step III:

- Purchase land
- Secure place on the TIP (est. 2018-2019)

Feedback?



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Contact

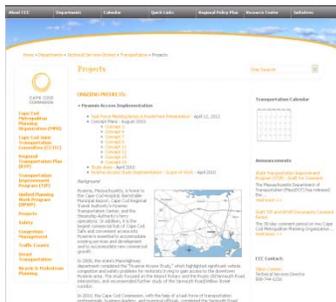
Tabitha Harkin

Community Design Planner

Phone: 508-362-3828

tharkin@capecodcommission.org

Thank You for attending!



Project materials available at:
www.capecodcommission.org



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Memorandum

DATE: NOVEMBER 19, 2013
TO: YARMOUTH BOARD OF SELECTMEN
FROM: CAPE COD COMMISSION STAFF
RE: ADDITIONAL CONSIDERATIONS TO YARMOUTH ROUTE 28 STUDY

The following items are meant to provide additional guidance to the BOS in their decision making, and were specifically posed to the CCC staff upon the submission of presentation materials.

Item 1: RE: Specific considerations of Winslow Gray Abandonment:

There is some question about what happens when a locally- owned roadway is realigned. According to George Allaire, if the BOS determines this portion of the road is no longer useful, this realignment of Winslow Gray would constitute abandonment, and in such a case, the abandoned length of roadway is split down the middle and given 50/50 to the abutters. This would alter the parcel from the .75 acres shown in the presentation to approximately .66 acres, and return the western half of the abandoned section to the western abutters. However, the Town may choose to purchase the abandoned section of roadway from the abutter, to keep the original proposal of .75 acres.

Item 2: RE: Potential Land Value of Undeveloped Lots:

The values shown in the presentation are based on information from the County assessor's database (2012). This data is a point in time valuation that reflects the market conditions of that day, and assumes the properties are functioning at their highest potential.

The methodology used here was that of a rough estimate, where the average assessed values of all lots along the study area (SUM/# of parcels), were divided by the average acreage (SUM of acreage/all parcels) to determine an average value per SF. This was then assigned to the new parcel size.

This estimate takes into consideration both developed and undeveloped lots currently along the corridor, and does not factor for any potential rise in land values due to improvements to the corridor.

To *determine the value of a potential property more accurately*, we recommend the town work with a professional consultant to perform a more accurate inspection of the property and take into consideration the potential market factors that may influence its value, by **issuing an appraisal and pro forma**, or financial statement used to estimate cash outlay and potential return on investment if underlying assumptions hold true. A pro forma developed at an early stage should communicate benefits to both public and private interests in order to attract developers or obtain public investment.

A pro forma will accurately analyze a land developments costs and revenues. The costs are associated with land, development standards and practices, and construction prices. The revenues depend largely on the market broken down by land use and product offerings. Most of these variables can change radically over the course of a development project. It may be very difficult to deliver a project with revenues that exceed costs in this dynamic environment. To fill any remaining gap, a mix of financing may be used, including equity shares, debt, incentives, grants, subsidies, or other funds. (source: American Planning Association)

Item 3: RE: Short-term, inexpensive improvements that the CCC would recommend in the interim of major improvements

CCC staff recommends implementing small scale streetscape improvements that can be funded with donations or town appropriations, such as planters, tree lights, strategically placed wayfinding banners, or small scale public art projects. These are visual cues to residents and business owners, as well as visitors, that improvements to the roadway are underway.

Some additional interim improvements include:

- Repainting of existing crosswalks with additional signage as appropriate.
- Continue working with abutting properties on access management plan through town permitting process.
- Locating CCRTA bus stops, shelters, and bicycle racks in key locations as recommended.
- Implementing ADA ramps at problematic locations.

Item 4: Approximate breakdown of potential appropriations for Phase I improvements

Entity Potentially Responsible	Components	Approximate Cost
Massachusetts Department of Transportation -TIP Funding	Roadway realignment (intersection and up to 200' of Sea View/Winslow, and roadway improvements along Rt 28 ¼ mile east to the PR bridge), including site preparation (clearing/grubbing and demolition) resurfacing, engineering, signals and detectors, sidewalks, curbing, utility relocation, strip takings, street trees, maintenance of these items	\$3.5 million
Town of Yarmouth (takings)/ Chapter 90 (road design)	a. Purchase of Koplou parcels, b. Design consultant @ approx. 10% of cost, c. Consultant to conduct appraisal and pro forma analysis	a.\$900k +b.\$350k+ c.\$50k = Approx \$1.3 million
Other Funding: MassWorks eligible at 25% design	Streetlights, wayfinding banners/mounts, additional landscaping components, benches, trash cans, bollards	\$130k per mile @ approx. ½ mile = \$65k
Other Funding: 319 DEP Grants	Low Impact Development Approaches (rain gardens, permeable paving, flow through planters	Approximately \$10k
Other Funding: FTA/CCRTA	Bus Shelters, bike racks	No cost - FTA funding covers through the CCRTA