CONNECT
THE COASTSIDE

Connect the Coastside Presentation

CTMP Technical Advisory Committee Meeting

March 4, 2015

Meeting Agenda

- Review of Project Objectives and Schedule
- Task 3 – Development and Evaluation of Transportation Alternatives to Address Deficiencies
- Public and Stakeholder Outreach on Transportation Alternatives
- Next Steps

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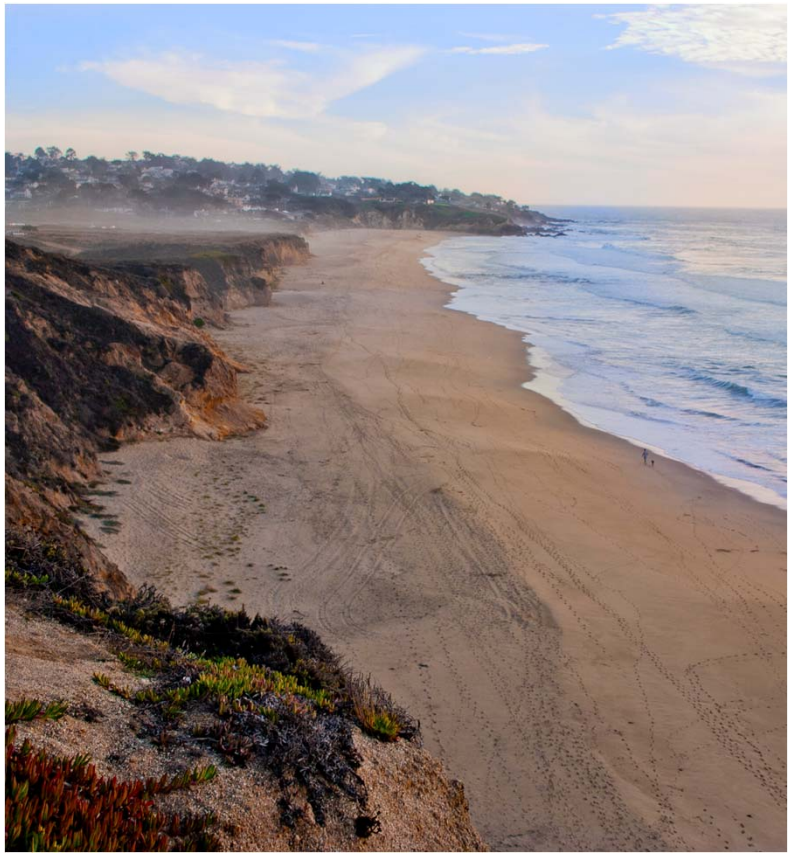

Project Objectives and Schedule

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What is **Connect the Coastside?**

- The Plan will identify measures to ensure future residential and non-residential development can be supported by the future transportation system and infrastructure.

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Project Objectives

- Estimate the buildout development potential of the Midcoast and Half Moon Bay
- Identify the potential impacts of growth on traffic, mobility and safety
- Identify and evaluate measures to minimize and mitigate the impacts of growth
- Develop a plan for funding and implementing transportation improvements

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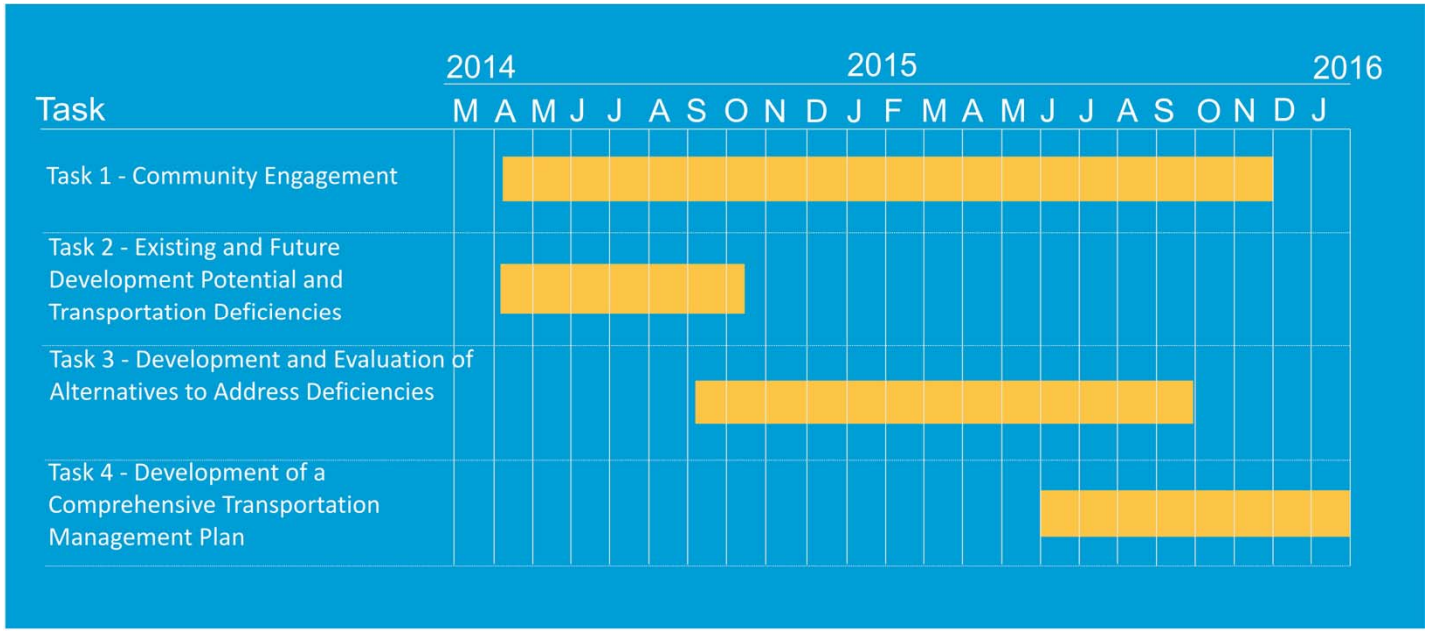
Project Schedule



Workshop #1: Opportunities and Constraints - November 2014

Workshop #2: Alternatives - March 2015

Workshop #3: Draft Plan - August 2015

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Task 3 - Development and Evaluation of Alternatives to Address Deficiencies

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Three Study Alternatives

- Alternative 1 – Low Cost/Low Impact Improvements
- Alternative 2 – Medium Cost/Medium Impact Improvements
- Alternative 3 – High Cost/High Impact Improvements

Alternatives Evaluation

- Feasibility and Design Considerations
- Cost
- Ability to address deficiencies
  - Defined Standards
  - Qualitative Scoring

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Alternatives Evaluation

Metric	Description	Point Value
Connectivity	Measures the extent to which a project fills a gap in existing bicycle or pedestrian networks or transit connections.	**0 to 3** (low to high connectivity)
Access	Measures the extent to which a project provides new facilities or service to currently underserved communities or existing destinations.	**0 to 3** (low to high access)
Safety	Bonus priority for safety improvements.	**0 or 1**
Shoreline	Bonus priority for enhanced public shoreline access.	**0 or 1**
Precedent	Bonus for a project recommended in one or more previous studies	**0 or 1**
Capital Cost	Measures the extent of the estimated capital cost for a project.	**0 to 3** (high to low capital cost)
Annual Cost	Measures the extent of the estimated annual operating and maintenance costs of a project.	**0 to 3** (high to low annual cost)

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Alternative 1 – Low Cost/Low Impact Improvements

Alternative 1

Low Cost/Low Impact

Alternative 1 – Low Cost/Low Impact Improvements

- Roadway and Intersection Improvements
  - Gray Whale Cove
  - Signage to restrict turning movements
  - Stop signs added

Alternative 1 – Low Cost/Low Impact Improvements

- Roadway and Intersection Improvements
  - Defined curb and shoulder for consistent cross section

Alternative 1 – Low Cost/Low Impact Improvements

- Feasibility and Design
  - Storage for left-turn pocket to avoid spillover
  - May be difficult to provide shoulder and curb in some locations along Highway 1
- Cost = $3.3 M

Alternative 1 – Low Cost/Low Impact Improvements

- Evaluation
  - Improves circulation at Gray Whale Cove
  - Improves safety for all modes of travel along Highway 1
  - Improves LOS at Highway 1 and 8th Street
  - Does not address any capacity deficiencies

Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Bicycle and Pedestrian
  - Designated crossings of Highway 1 with striping and beacons (18 locations)
  - Addition of sidewalks on Highway 1 in the most active areas of Montara, Moss Beach, Miramar, and Half Moon Bay
  - Updated traffic signals to support pedestrians and bicyclists
  - Sharrows on Main Street and Carlos Street

Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Feasibility
  - Gray Whale Cove crossing should be north of the turn pocket
- Cost = $5.7 M

Alternative 1 – Low Cost/Low Impact and Planned Improvements

Evaluation

- Pedestrian crossings, sidewalks and Sharrows score well in most or all categories
- Traffic signal updates only improve safety and connectivity, however this is an important aspect in Downtown Half Moon Bay where the pedestrian volume is high

Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Transit Improvements
  - Improvement of bus stop amenities
  - Increased weekend SamTrans service

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samTrans

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Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Feasibility
  - Bus stop locations should be based on demand studies
- Cost = up to $12 M + negotiated price with SamTrans

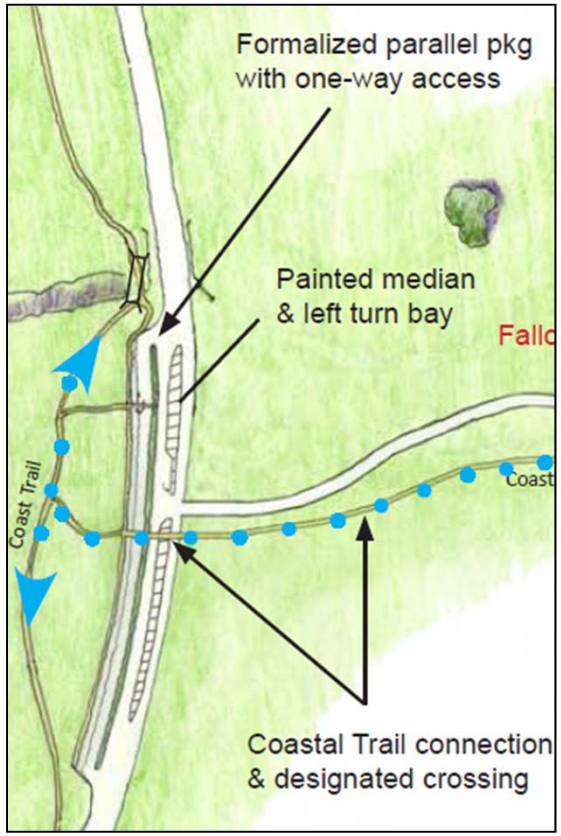
Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Evaluation
  - Increased transit service will require negotiation with SamTrans
  - Bus stop improvements only improve safety on our metric, but they are also an important factor in making transit more comfortable and desirable

Alternative 1 – Low Cost/Low Impact and Planned Improvements

Parking Improvements

- Formalized parallel parking for Montara Beach separated from Highway 1
- Gray Whale Cove Upper Lot
- Improve wayfinding signage



Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Feasibility
  - Any separated parking facility should have a left-turn bay for northbound traffic
- Cost = $1.9 M

Alternative 1 – Low Cost/Low Impact and Planned Improvements

- Evaluation
  - Both proposed parking lots provide improved parking supply in high-demand locations in an area with adjacent traffic
  - Improved wayfinding signage will help direct recreational traffic to designated parking areas to avoid overflow in residential parking areas

Alternative 1 – Low Cost/Low Impact and Planned Improvements

Alternative 1

Overall Maximum Cost Estimate = $21.3 M

Alternative 2 – Medium Cost/Medium Impact Improvements

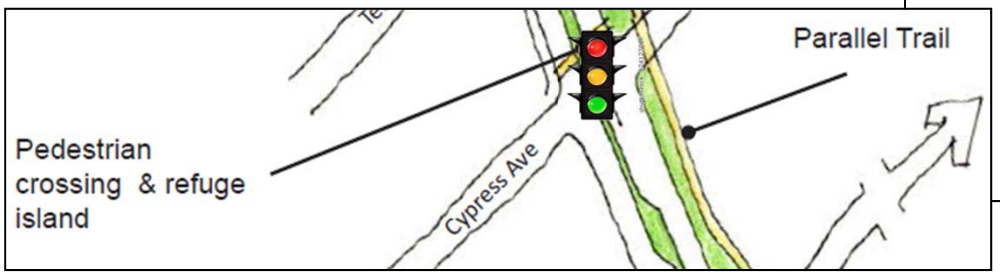
Alternative 2

Medium Cost/Medium Impact

Alternative 2 – Medium Cost/Medium Impact Improvements

Roadway Improvements

- ***Alternative 1 Improvements***
- Left-turn bay and acceleration lane (6 additional locations)
- Signals added (5 locations)
- Additional medians to restrict and consolidate access to Highway 1



Alternative 2 – Medium Cost/Medium Impact Improvements

- Feasibility
  - Signalization of California Avenue may require careful design because of Wienke Way and may not be necessary if westbound traffic is restricted
  - Any signalization will require striped pedestrian crossings
- Cost = $13.3 M - $14.7 M

Alternative 2 – Medium Cost/Medium Impact Improvements

- Evaluation
  - Physical restriction of turns and access has similar results to signage
  - Signalization of California Avenue, Cypress Avenue, and Kehoe Avenue all result in LOS within the standard
  - Consolidation of access minimizes number of conflict locations along Highway 1

Alternative 2 – Medium Cost/Medium Impact Improvements

- Bicycle and Pedestrian Improvements
  - ***Alternative 1 Improvements***
  - Parallel and Coastal trails
  - Sidewalks on Coronado Street and Avenue Alhambra in El Granada
  - Class II bike lane along Capistrano Road
  - Class II bike lane along Airport Street

Alternative 2 – Medium Cost/Medium Impact Improvements

- Feasibility
  - Parallel trail will cross uneven land and may result in high engineering cost and environmental impacts
  - Lane width on Capistrano Road and Airport Street to calm traffic adjacent to bicycle lanes
- Cost = $13.5 M plus study cost estimates for Parallel and Coastal Trails, Airport Street Bike Lanes

Alternative 2 – Medium Cost/Medium Impact Improvements

- Evaluation
  - The Parallel and Coastal trails have very high connectivity and accessibility scores as well as public support and will provide a safe alternative to Highway 1 for recreational bicyclists and pedestrians
  - Sidewalks and bike lanes will provide connectivity along currently traveled corridors

Alternative 2 – Medium Cost/Medium Impact Improvements

- Transit Improvements
  - ***Alternative 1 Improvements***
  - Shuttle bus service during special events
  - Park-and-Ride lots for transit (repeated under *Parking*)
  - Enhanced bus service for the Cabrillo Unified School District

Alternative 2 – Medium Cost/Medium Impact Improvements

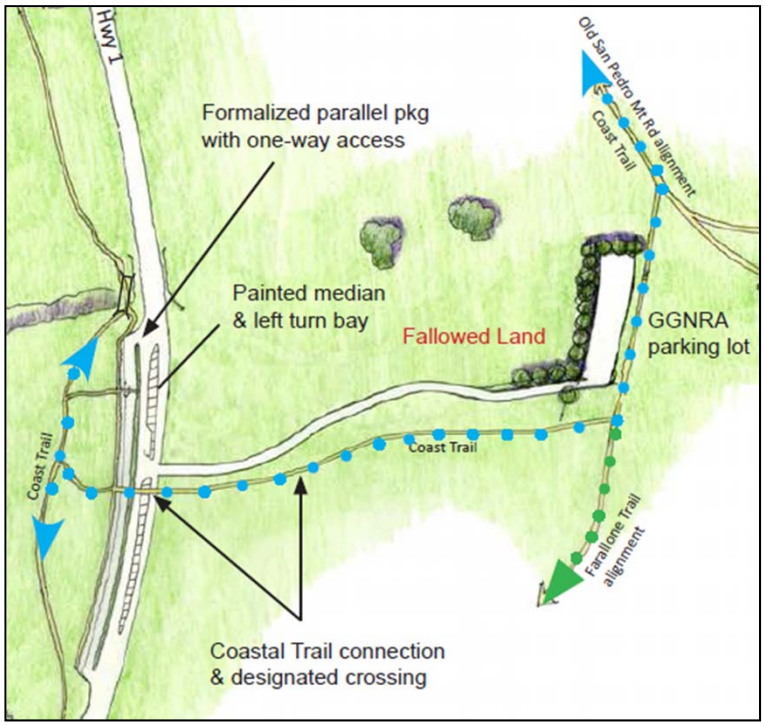
- Feasibility
  - No feasibility or design concerns
- Cost
  - Will require cost of acquisition or leasing of buses and facilities for shuttle and school bus service
  - Park-and-Ride lots will require negotiation with owners

Alternative 2 – Medium Cost/Medium Impact Improvements

- Evaluation
  - Special event shuttle service has potential for consolidating demand during the most congested time of the year and Park-and-Ride lots offer the same during the remainder of the year
  - School bus service is highly desired and would improve connectivity and access, but requires ongoing operation and maintenance funding

Alternative 2 – Medium Cost/Medium Impact Improvements

- Parking Improvements
  - ***Alternative 1 Improvements***
  - Parking lot for Rancho Corral de Tierra trails access east of Highway 1



Alternative 2 – Medium Cost/Medium Impact Improvements

- Feasibility
  - Because the proposed lot is on the east side of Highway 1, it would require a striped crosswalk with a high-visibility beacon if it is used for beach parking
- Cost = $4.3 M

Alternative 2 – Medium Cost/Medium Impact Improvements

- Evaluation
  - The proposed lot would address existing parking needs, but paving a large area for parking could have environmental impacts

Alternative 2 – Medium Cost/Medium Impact Improvements

- **Alternative 2**
  Overall Maximum Cost Estimate = $44.4 M
  -plus study cost estimates for Parallel and Coastal Trails, Airport Street Bike Lanes
  -plus cost of acquisition or leasing of buses and facilities for shuttle and school bus service
  -plus negotiated cost with SamTrans and Park-and-ride lot owners

Alternative 3 – High Cost/High Impact Improvements

Alternative 3

High Cost/High Impact

Alternative 3 – High Cost/High Impact Improvements

- Roadway Improvements
  - ***Alternative 1 and 2 Improvements***
  - Roundabouts at twelve intersections
  - Addition of travel lanes along Highway 1 to create a four-lane highway between the following cross roads:
    - 9th Street in Montara and Carlos Street in Moss Beach
    - Cypress Avenue in Moss Beach and Coral Reef Avenue in El Granada

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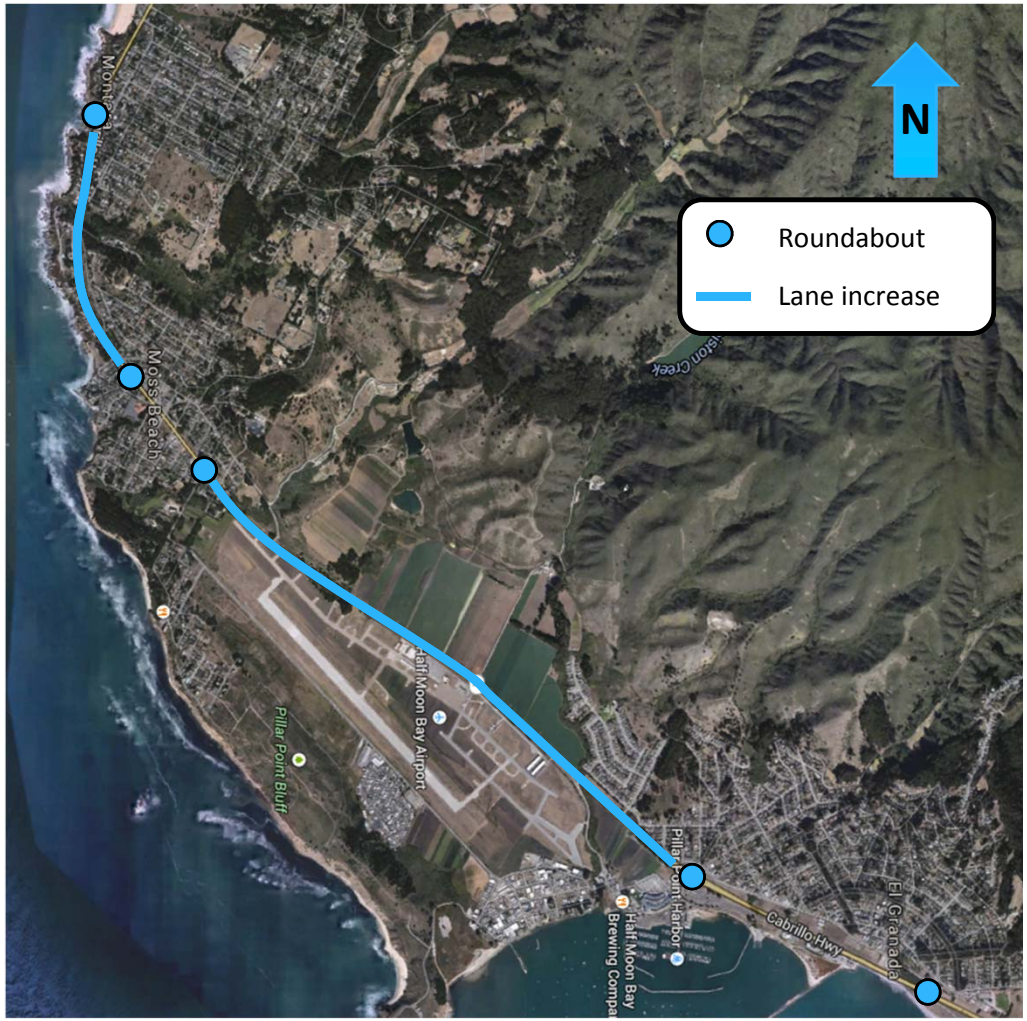
Roundabouts and Capacity Increase



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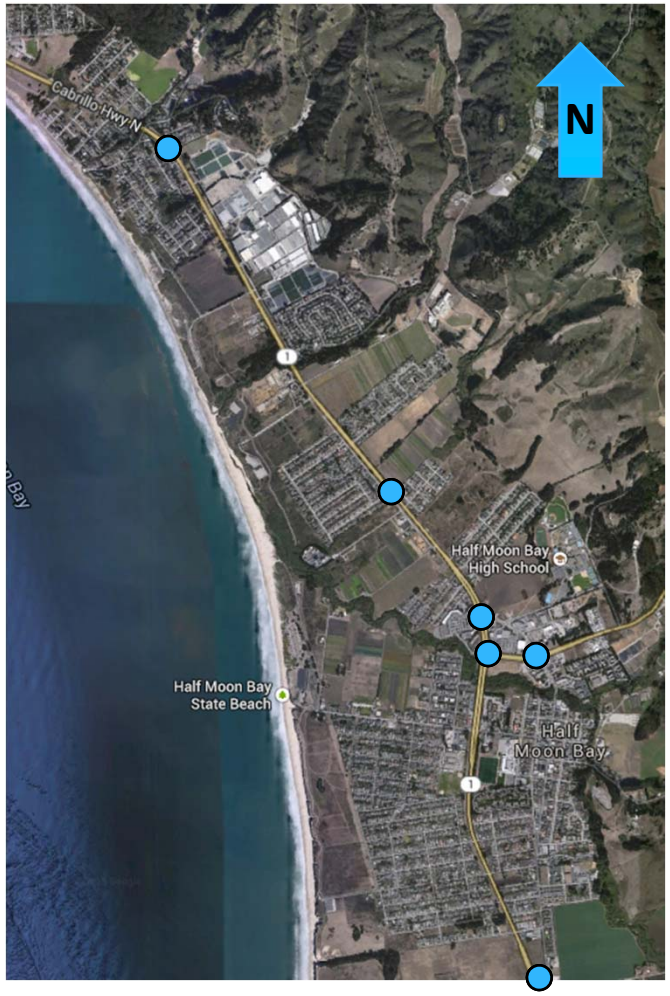
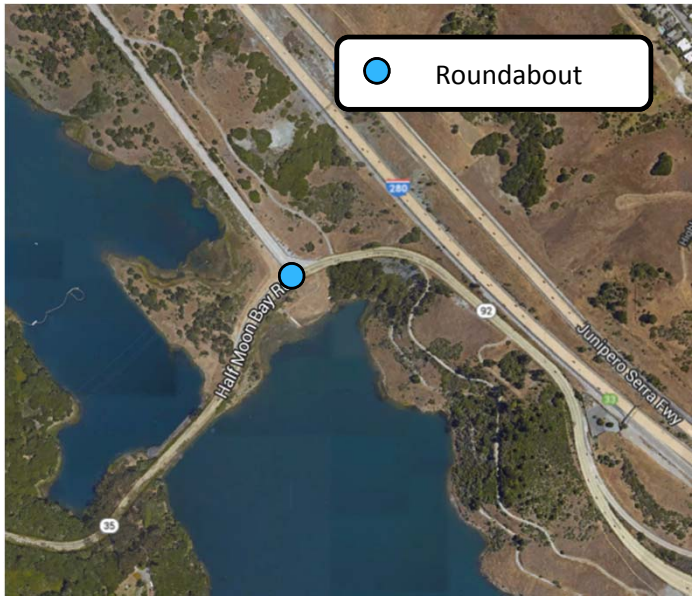
Roundabouts and Capacity Increase





Alternative 3 – High Cost/High Impact Improvements

- Sample of Roundabouts in Other Locations

Alternative 3 – High Cost/High Impact Improvements

Roadway Improvements (continued)

- Highway 1 realignment in El Granada
- Construction of a Frontage Road along east side of Highway 1 connecting Main Street with Frenchman's Creek Road

Alternative 3 – High Cost/High Impact Improvements

Roadway Improvements (continued)

- Left-turn lanes at major businesses along SR 92 in Half Moon Bay
- Passing/Climbing lanes where feasible along SR 92

Alternative 3 – High Cost/High Impact Improvements

- Feasibility
  - Roundabout capacity constraints and approach requirements
  - Demand study is needed to determine left-turn pocket length for left-turn pockets on SR-92
  - High potential cost of right-of-way acquisition for any large footprint projects in built-out areas
- Cost = $58.1 M - $59.4 M

Alternative 3 – High Cost/High Impact Improvements

- Evaluation
  - Increasing capacity between Montara and Moss Beach and between Moss Beach and El Granada addresses roadway capacity deficiencies
  - Roundabouts at the following locations show improvements to LOS:
    - Highway 1 & Coronado Street
    - Highway 1 & Kehoe Avenue
    - SR-92 & SR-35

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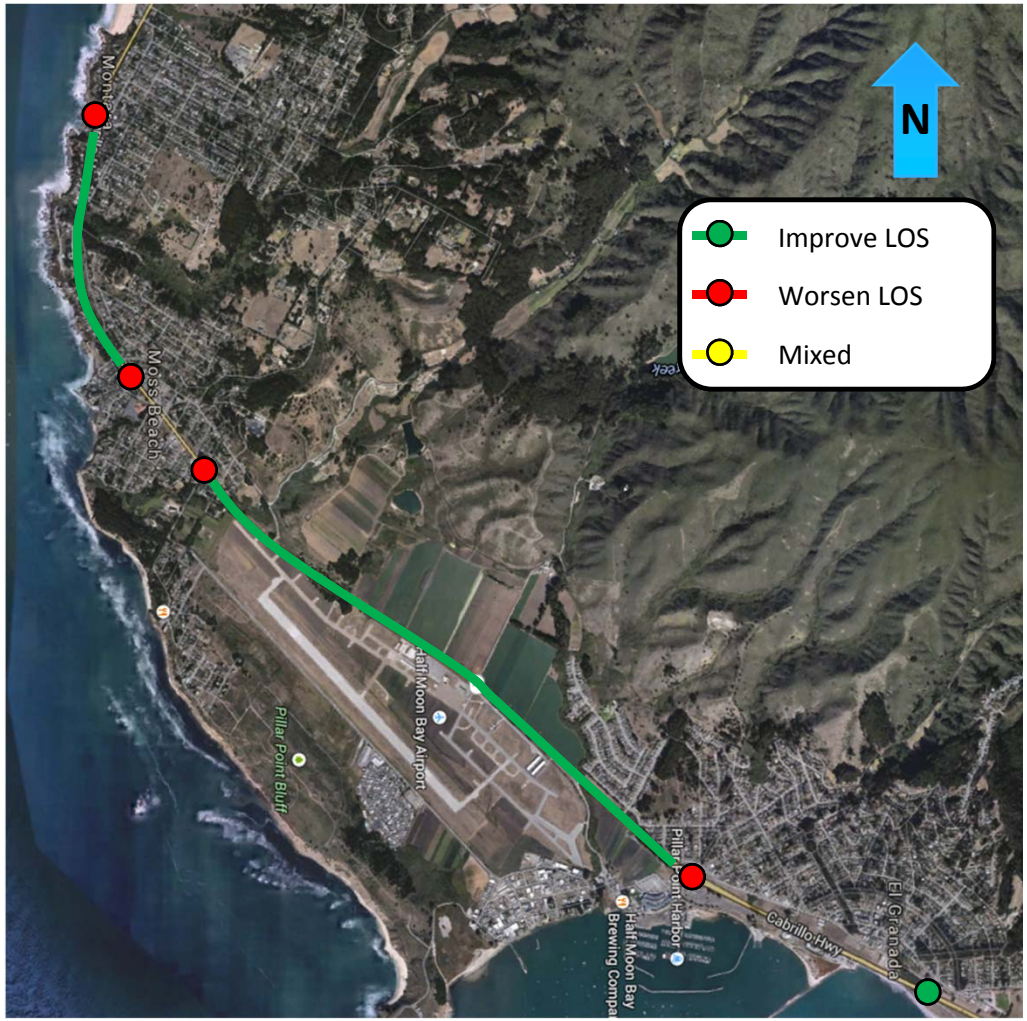
Roundabouts and Capacity Increase



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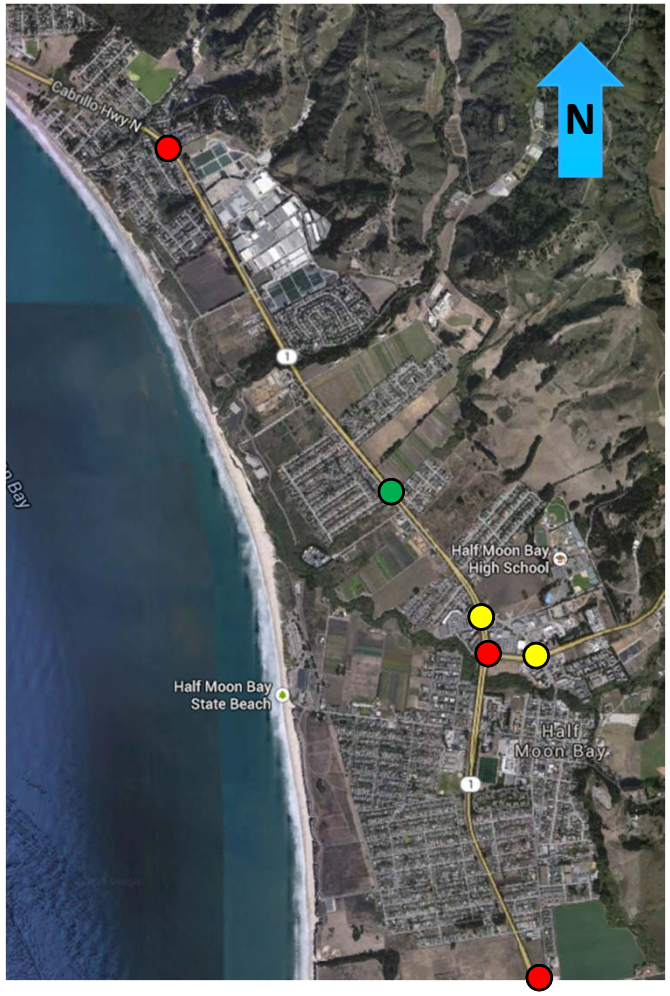
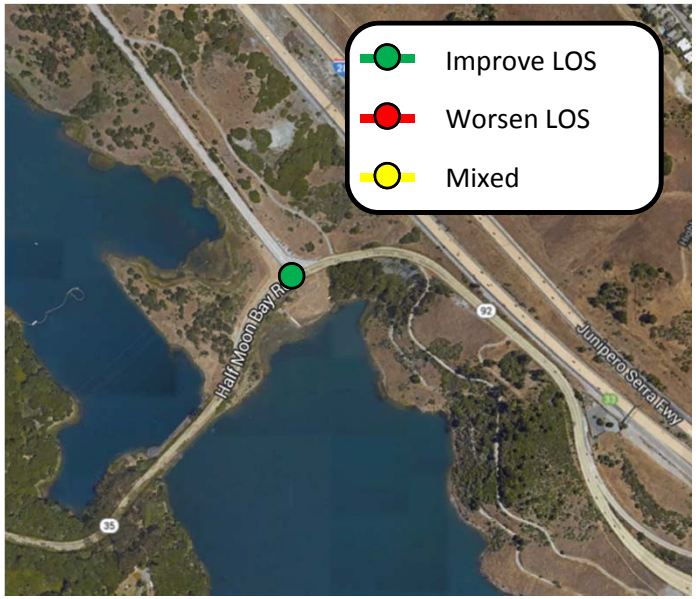
Roundabouts and Capacity Increase





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Sample Roundabout Design

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Alternative 3 – High Cost/High Impact Improvements

- Evaluation
  - Left-turn lanes and passing/climbing lanes along SR-92 do not directly address roadway capacity deficiencies, but they will greatly improve circulation and flow through the area and allow improved efficiency in using the existing capacity

Alternative 3 – High Cost/High Impact Improvements

- Bicycle and Pedestrian Improvements
  - ***Alternative 1 and 2 Improvements***
  - Pedestrian over- or under-crossings of Highway 1 at four locations
    - Gray Whale Cove
    - Montara Sanitary District building
    - Surfer's Beach Parking area
    - Kehoe Avenue
  - Bike lane/route along SR 92

Alternative 3 – High Cost/High Impact Improvements

- Feasibility
  - The design of pedestrian under-crossings may be affected by the water table at locations close to the coast and over-crossings maybe require a significant footprint to provide the required vertical clearance and handicap accessibility
- Cost = $60 M

Alternative 3 – High Cost/High Impact Improvements

- Evaluation
  - SR-92 bike lane has high connectivity, access, and safety score
  - High cost suggests that a demand study should be performed to determine the expected volume of bicycle traffic
  - Pedestrian over- and under-crossings are high cost alternatives to striped crossings

Alternative 3 – High Cost/High Impact Improvements

Transit Improvements

- ***Alternative 1 and 2 Improvements***
- Expanded SamTrans service for Midcoast and HMB
- Improved transit connections to regional transit

Alternative 3 – High Cost/High Impact Improvements

- Feasibility
  - No feasibility concerns
- Cost estimates of increased and new SamTrans routes will be based on negotiation with SamTrans

Alternative 3 – High Cost/High Impact Improvements

- Evaluation
  - Increased local and regional transit will greatly improve connectivity and access
  - Potentially high cost
  - Demand study should be used to determine expected ridership and high demand locations

Alternative 3 – High Cost/High Impact Improvements

Parking Improvements

- ***Alternative 1 and 2 Improvements***
- Diagonal parking for Moss Beach along Carlos Street
- Diagonal parking for El Granada separated from Highway 1 realignment

Alternative 3 – High Cost/High Impact Improvements

- Feasibility
  - No feasibility concerns
- Cost = $4.4 M

Alternative 3 – High Cost/High Impact Improvements

- Evaluation
  - Parking projects are currently tied to larger alignment projects
  - Increased parking availability should be provided regardless of larger project approval

Alternative 3 – High Cost/High Impact Improvements

- **Alternative 3**
  Overall Maximum Cost Estimate = $135.7 M
  -plus study cost estimates for Parallel and Coastal Trails, Airport Street Bike Lanes, and Frontage road
  -plus cost of acquisition or leasing of buses and facilities for shuttle and school bus service
  -plus negotiated cost with SamTrans and Park-and-ride lot owners

Conclusions about Alternatives

- Most improvements considered would be cost-effective ways to improve mobility, safety and access.
- Even Alternative 3 will not address all Buildout deficiencies.
- Land-use alternatives or change in standards may be required.

Hybrid Alternative

- Roadway and Intersection Improvements
  - Safety or Circulation
    - Gray Whale Cove turn lane/acceleration lane
    - 16th Street median in Montara
    - Signage to restrict and consolidate turning
    - Traffic calming on main community streets
    - Defined curb and gutter and stop signs on unsigned approaches
    - Nurseryman driveway consolidation
    - Left-turn pockets for businesses on SR-92

Hybrid Alternative

- Roadway and Intersection Improvements
  - LOS Deficiency
    - Signalization at Highway 1 & California Ave, Cypress Ave, Grand Blvd/Terrace Ave, and Main Street (S)
    - Roundabouts at Highway 1 & Coronado St, Kehoe Ave, and SR-92 & SR-35
    - Additional lanes on Highway 1 between 9th Street and Etheldore St/Vallemar St and between Cypress Ave and Capistrano Rd (S)
    - Passing lane on SR-92 between Landfill Rd and Quarry Rd

Hybrid Alternative

- Bicycle and Pedestrian Improvements
  - High Priority Improvements
    - Parallel and Coastal Trail
    - Sharrows on main community streets
    - Bike lane on Capistrano Street
    - Striped crossings with beacons along Highway 1 and SR-92

Hybrid Alternative

- Bicycle and Pedestrian Improvements
  - Improvements to be considered given funding
    - Bike lane on SR-92
    - Traffic Signal updates for ped/bike safety
    - Bike lane on Airport Street
    - Sidewalks along Highway 1 and main community streets in high demand areas

Hybrid Alternative

- Transit Improvements
  - High Priority Improvements
    - Shuttle bus service during special events
    - More frequent weekend SamTrans service
    - Park-and-ride shuttle at community lots
  - Improvements to be considered given funding
    - Local SamTrans Route
    - Express SamTrans connection to regional transit providers during commute
    - School Bus service

Hybrid Alternative

- Parking Improvements
  - High Priority Improvements
    - Formalized Montara State Beach parking
    - Parking along Carlos Street
    - Beach parking for El Granada west of Highway 1
    - Wayfinding Signage
  - Improvements to be considered given funding
    - Upper Gray Whale Cove parking lot
    - Rancho Corra de Tierra access parking lot

Hybrid Alternative

- **Hybrid Alternative**
  Overall Maximum Cost Estimate = $83.9 M
  -plus study cost estimates for Parallel and Coastal Trails, Airport Street Bike Lanes
  -plus cost of acquisition or leasing of buses and facilities for shuttle and school bus service
  -plus negotiated cost with SamTrans and Park-and-ride lot owners

Public and Stakeholder Outreach on Transportation Alternatives

- Web Site Outreach – April
- Workshop # 2 – April 15
- Briefing to Midcoast Community Council – April 8
- Briefing to Half Moon Bay City Council – April 21

Next Steps

- Workshop #2: Alternatives, April 15 2015
- Evaluation of Hybrid Alternative
- Development and Evaluation of Land Use Alternatives
- TAC Meeting #4, April 2015

Questions?

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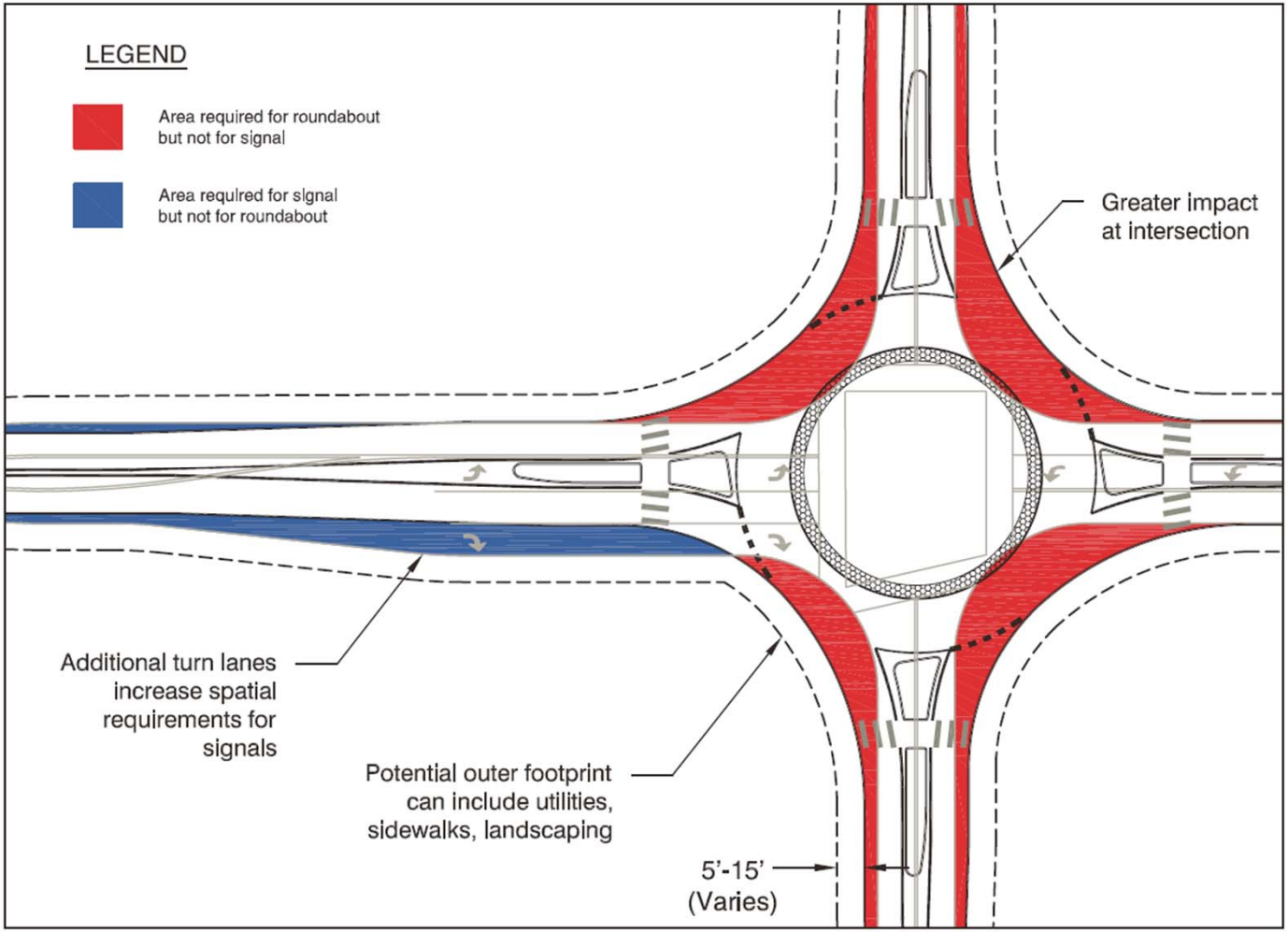
Roundabouts



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