MEMORANDUM

DATE: September 23, 2015

TO: Rob Bartoli
San Mateo County
Planning and Building Department

FROM: Bill Loudon, PE
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SUBJECT: Recommendation of Alternative Transportation Standards for the San Mateo County Comprehensive Transportation Management Plan P#14075-000

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1. INTRODUCTION

The purpose of this memorandum is to summarize the existing vehicle Level of Service (LOS) standards utilized in the Connect the Coastside study area and to present alternative standards that better describe the ability of the transportation system to accommodate growth. The identification of adequate measures and standards for the both Midcoast and the City of Half Moon Bay are vital to providing an accurate assessment of current and forecasted transportation deficiencies and determining the most efficient and feasible improvements to address those deficiencies without disrupting the unique context and character of the Coastside area. Evaluation of the transportation network using proposed standards and improvements to address any identified deficiencies will occur during later stages of this project.

The purpose of transportation standards is to provide a framework with which to identify existing deficiencies in the transportation network and to identify what deficiencies will be caused by future development, including single family, multi-family, and second unit residential development, and non-residential development. The County's Local Coastal Program (LCP) states in Policy 2.52 that applicants for new development that increase net vehicle trips on Highway 1 or State Route (SR) 92 must "develop and implement a traffic impact analysis and mitigation plans (TIMP)", which will require "specific provisions to assess, and mitigate for, the project's significant adverse cumulative impacts". Currently impacts are only defined by vehicle-based standards which measure deficiencies such as road capacity (how full Highway 1 and SR 92 are and how much delay vehicles entering Highway 1 experience). There is no consideration given to other modes, and as a result developers are not responsible for any improvements that address the effect that increased demand has on pedestrians, bicycles, transit, and parking.

2. EXISTING STANDARDS

Both the San Mateo County LCP and the Half Moon Bay (City) General Plan contain stricter standards for determining traffic impacts in the Midcoast than those standards contained in the San Mateo County Congestion Management Program. Therefore, these stricter standards are used for determining congestion impacts associated with current and future growth. Level of Service (LOS) is a qualitative measure ranking levels of congestion on a given roadway or intersection. LOS can range from "A" representing free-flow conditions to "F" representing congested conditions with long delays. Roadway segments are defined by the portion of road between two endpoints, usually intersections, and performance metrics tend to measure how well the roadway allows vehicles to travel through it. Intersections are defined by two intersecting roadways and performance metrics tend to measure how much delay is added to vehicles at the intersection as it processes the two competing directions.

As dictated by the San Mateo County Congestion Management Program 2009, roadway capacity for multi-lane highways is assumed to be 2,200 vehicles per lane per hour while capacity is 1,400 vehicles per lane per hour for two lane highways. LOS definitions, considering the ratio of traffic volume to capacity for two- and multi-lane highways, are shown in **Table 1**. LOS definitions, considering vehicle delay for signalized and unsignalized intersections, are shown in **Table 2.**

Table 1 - Roadway Segment LOS Thresholds and Definitions

LOS	Two-Lane Highway		Multi-Lane Highway	
	Max v/c ratio[a]	Average Travel Speed[b]	Max v/c ratio[c]	Average Travel Speed[b]
A	0.00 – 0.04	54	0.00 – 0.30	50
B	0.04 – 0.16	51	0.30 – 0.50	50
C	0.16 – 0.32	48	0.50 – 0.70	50
D	0.32 – 0.57	46	0.70 – 0.84	49
E	0.57 – 1.00	41	0.84 – 1.00	47
F	> 1.00	< 41	> 1.00	< 47

Source: San Mateo County Congestion Management Agency, 2009

a. Ratio of flow rate to an ideal capacity of 2,800 passenger cars per hour in both directions.

b. Average travel speed of all vehicles for highways with design speed 60 mph; for highways with lower design speeds, reduce speed by 4 mph for each 10-mph reduction in design speed below 60 mph; assumes that speed is not restricted to lower values by regulation.

c. Ratio of flow rate to an ideal capacity of 2,200 passenger cars per lane per hour.

Table 2 – Intersection LOS Thresholds and Definitions

Level of Service	Average Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤ 10	≤ 10	Free flow/ Insignificant Delay
B	> 10 and ≤ 20	> 10 and ≤ 15	Stable Operation/ Minimal Delay
C	> 20 and ≤ 35	> 15 and ≤ 25	Stable Operation/ Acceptable Delay
D	> 35 and ≤ 55	> 25 and ≤ 35	Approaching Unstable/ Tolerable Delay
E	> 55 and ≤ 80	> 35 and ≤ 50	Unstable Operation/ Significant Delay
F	> 80	> 50	Forced Flow/ Excessive Delay

Source: 2010 *Highway Capacity Manual, Transportation Research Board, 2010*.
Notes: Worst Approach Delay (in seconds per vehicle) for Unsignalized Intersections

a. Roadway Segment Congestion Standards

The County LCP defines the roadway segment LOS standard for Highway 1 and SR 92 as LOS D, except during commuter peak periods and recreation peak periods, during which LOS E is acceptable. The City's Circulation Element defines the LOS standard for Highway 1 and SR 92 as LOS C, except during the commuter peak periods and recreational peak periods when LOS E is acceptable. "Recreational peak period" refers to the weekend midday peak when regional recreational demand is greatest. Roadway segment LOS is based on the ratio between observed volume during peak periods and the capacity of the roadway segment. As such, the roadway segment LOS measure does not take into account observed congestion and delay experienced by users (as a result of intersections and other sources of increased travel time) and only offers improvements that divert significant volume to other parts of the network or that increase capacity through road widening.

b. Intersection Congestion Standards

The *San Mateo County Traffic Impact Study Requirements* defines the intersection LOS standard for San Mateo County as LOS C with no individual movement operating at worse than LOS D. For unsignalized intersections, this represents the delay experienced by minor street traffic entering Highway 1. The City's Circulation Element (adopted 2013) has established a desired LOS C at intersections along Highway 1 and SR 92, except during the two-hour commute periods, when LOS E is acceptable. The Circulation Element states that this decision was made in order to be consistent with the CMP. As the majority of intersections within the study area are

unsignalized and only controlled by stop signs for minor approaches, the existing standards prioritize the delay experienced by the relatively low volumes entering Highway 1 or SR 92 over the higher volume of through traffic along Highway 1 or SR 92. In order to address long delays, either signalization and/or roundabouts, or consolidation of access points to concentrate access to Highway 1 at specific locations would be required.

c. Multimodal Standards

There are currently no multimodal standards for pedestrian, bicycle or bus transit modes for the Midcoast, County or City. Additionally, there are no standards for availability of parking. As a regional attractor and recreational area that serves a wide range of transportation modes, a lack of multimodal standards can result in a transportation network that tends to prioritize vehicular LOS over other modes of transportation.

d. Conclusion

The existing standards for the study area are focused only on the automobile mode and do not take into account the corridor-based environment of the roadway network. As a result, deficiencies are identified at facilities that are operating as desired, such as at low-volume minor street experiencing delay in order to maintain flow along Highway 1.

The lack of multimodal standards encourages continued growth in automobile use by prioritizing capacity and control improvements that interrupt flow along Highway 1 and interfere with the existing context and character of the study area while not providing safe and efficient non-automotive options. Additionally, as regional growth in recreational travel continues, there are no standards to identify deficiencies in parking availability, and inadequate parking can result in parking spillover into residential areas. Mitigations resulting from new standards should be chosen such that they avoid causing deficiencies to occur in different modes.

e. Recommendation:

1. ***Revise the existing roadway segment and intersection standards to provide exemptions for facilities that do not have significant minor approach volumes and for those that prioritize other modes;***
2. ***Implement multimodal standards to identify deficiencies that occur as increased automotive demand hinders the ability of pedestrian and bicycle to operate safety and efficiently; and***
3. ***Implement standards to identify deficiencies in transit and parking services that do not adequately meet demand.***

3. ALTERNATIVE ROADWAY CONGESTION STANDARDS

There are multiple alternative approaches available to measuring congestion. Since California passed SB 743, it is increasingly acceptable to measure congestion with methods other than vehicle LOS. The various alternatives presented here provide options that include the use of LOS and other measures. These approaches are based on the context of the region and the level of congestion expected by roadway users. They allow for congestion management to be more flexible and meet the goals and objectives of the community (increased safety and lower emissions, delay, congestion, etc.)

a. Roadway Segments

LOS with context specific exemptions

Many different jurisdictions use roadway segment LOS as it is used in this study area, but allow a lower LOS to be acceptable when the segment meets certain criteria. The City of Monterey has an LOS standard of D; however, if the corridor has either Class I bicycle facilities or Class II bicycle facilities that are connected to Class I trails, or if the segment is served by transit with a headway (the time between buses) of less than 20 minutes and operates during AM and PM peak hours year round, then the City allows LOS E as an acceptable standard for the corridor. If the corridor has both bicycle and transit facilities that meet the criteria mentioned previously, then it is acceptable for the corridor to have LOS F for up to 2 hours on a typical weekday. This allows for a road diet (a reallocation of existing right of way to serve multiple modes of transportation) which constrains the amount of right-of-way used for automobiles in order to provide right-of-way for bicycle or pedestrian facilities.

Fort Collins, CO, has similar standards. In Fort Collins's case, if the corridor is in a mixed-use district the acceptable standard is LOS E, but it is allowed to drop below LOS E if the City provides congestion mitigation through alternatives to motor vehicle travel (a high level of bicycle and transit facilities).

Delay Index

Recent changes to the subarea Action Plans in Contra Costa County have included the use of a Delay Index as a congestion measure for defined Routes of Regional Significance. The Delay Index is calculated as the ratio between travel time during the peak hour and free flow travel time. Depending on the area, acceptable delays are typically between 2-5 times what the trip takes under free flow conditions.

In Massachusetts, MassDOT uses a variation of this method to determine the hours of delay experienced by the average driver for every 1000 Vehicle Miles Traveled (VMT). By not focusing on the peak periods, this method is more applicable for regions that have longer periods of congestion instead of regions that have sharp increases in demand during peak periods. This method allows for MassDOT to predict the delay and set standards for acceptable change over time.

b. Intersections

LOS with Change in Standard

Many jurisdictions use intersection LOS as currently used in the study area, but allow exceptions to the standard based on the role/importance of the intersection to the network. In Merced County, LOS E or worse is allowed on a minor component of the system, such as a minor left turn if the mitigation of this effort could compromise a major component, such as through traffic along Highway 1.

For an unsignalized intersection operating at LOS E or F an appropriate method would be to test the intersection using Caltrans signal warrants. If the intersection does not warrant a signal, then the volume on the minor street would not be high enough to warrant conversion to a signalized intersection or roundabout. This allows for focus to be placed on intersections with higher cross street traffic. The City of Santa Clara only considers impacts to intersections if a signal warrant is met, otherwise it is exempt.

c. Recommendation

Roadway Segment – Delay Index

The Midcoast offers a unique transportation network with only one main road in each direction (Highway 1 in the north-south direction and SR 92 in the east-west direction) and little support for widening to increase capacity throughout the corridor. Instead of basing LOS on roadway capacity, the use of a Delay Index to measure roadway congestion addresses how users experience congestion and how it affects their time spent in congestion. Depending on how segments are defined, it allows for the identification of deficiencies and improvements to address specific bottlenecks and causes of congestion within a segment instead of requiring full scale widening improvements. Segment boundaries should be defined by any change in number of lanes or change in land use (i.e. at gateway intersections, defining the bounds of Midcoast Communities)

Implementation of this standard would require the collection of travel time runs during peak hours and modeling to determine how proposed improvements or growth would affect travel time at various levels of congestion during AM Peak Hours, PM Peak Hours and Weekend Peak Hours. Proposed improvements that affect intersections would also affect travel times, allowing for an accurate representation of the tradeoff between intersection LOS and roadway LOS.

Our recommendation would change the existing LOS standard to a Delay Index standard during the Weekday AM and PM commute peak hours and during the Weekend midday recreational peak hour of 2.0. This would mean that a segment that took 10 minutes to drive with no congestion would be deficient if it took over 20 minutes to drive during peak commute times. For segments that have adjacent Class I bicycle facilities or Class II bicycle facilities that are connected to Class I trails, a Delay Index of 3.0 would be acceptable.

Intersection – LOS with change in standard

Because the majority of intersections within the study area are unsignalized and only controlled by stop signs for minor approaches, any proposed improvement should appropriately balance the need of the minor street traffic with the flow of traffic along Highway 1 and SR 92. Allowing exceptions to the standard based on the context of the intersection within the network and the volume of traffic using the minor approach would address the concerns of the community that the flow of traffic not overly affected by the addition of unnecessary signalization. Our recommendation is that any unsignalized intersection with a minor approach operating below the existing LOS standard of D that does not meet a peak hour signal warrant would not be considered deficient. This would mean that intersections without a large enough demand on the side street would not require any improvement.

For unsignalized intersections that meet a Caltrans peak hour signal warrant[1] or for signalized intersections, our recommendation is that the LOS standard should remain the same, allowing for identification of locations

[1] California MUTCD 2012, Chapter 4

where roundabouts or traffic signals should be implemented or where the efficiency of a signal could be improved through more efficient signal timing or the addition of turn lanes and acceleration lanes to separate turning traffic from through traffic.

4. MULTIMODAL STANDARDS

While not widespread, multimodal LOS standards are currently being studied and implemented in many communities across the US. The various measures presented below provide options that include the mobility and accessibility as well as how non-vehicular modes interact with traffic. These approaches are based on the context of the region and how the level of congestion affects all users of the transportation network. They allow for congestion management to be more flexible and meet the goals and objectives of the community.

a. Pedestrian

The San Mateo County Comprehensive Bicycle and Pedestrian Plan presents a Pedestrian INDEX Walking Demand Score[2] to model walking demand throughout San Mateo County. Segments were scored on a combination of variables that identified the "density and diversity of land uses, proximity to walking destinations, transit accessibility and pedestrian supportiveness of the street network." This process combines land use and demographic data in order to identify the areas with the most potential or demand for pedestrian use. The following variables were used to create the Pedestrian Walking Demand Score:

- Population Density
- Employment Density
- Land Use Mix
- Schools
- Parks/Benches
- Transit Proximity
- Neighborhood Shopping Districts
- Social and Recreational Destinations
- Employment Centers
- Resident Demographics (Age, Income, Vehicle Ownership)
- Priority Development Areas
- Street Segment length
- Intersection Density
- Connectivity

[2] San Mateo County Comprehensive Bicycle and Pedestrian Plan, Appendix C: Figure C-3 includes scores for the study area

A map of the Walking Demand Score for the study area from the San Mateo County Comprehensive Bicycle and Pedestrian Plan is included as an attachment. Based on roadway classification, different standards for required pedestrian treatments can be set based on the Walking Demand Score. Standards for pedestrian facility design would include ADA compliance and vertical or lateral separation (through a buffer or a curb) from traffic lanes.

The Pedestrian Environmental Quality Index (PEQI)[3] is a frequently used method of measuring pedestrian service. This method is easier for the public to visualize and removes confusion caused by comparing pedestrian scores to Auto LOS. **Table 3** shows the indicators used in generating the PEQI.

Table 3 - Pedestrian Environmental Quality Index

Intersection Safety	Traffic Volume	Street Design	Land Use	Perceived Safety
• Crosswalks • High Visibility Crosswalks • Intersection lighting • Traffic control • Pedestrian/ Countdown signal • Wait time • Crossing speed • Pedestrian refuge island • Curb ramps • Intersection traffic calming features • Pedestrian engineering countermeasures	• Number of vehicle lanes • Posted speed limit • Traffic volume • Street traffic calming features	• Continuous sidewalk • Width of sidewalk • Width of throughway • Large sidewalk obstructions • Sidewalk impediments • Trees • Driveway cuts • Presence of a buffer • Planters/ gardens	• Public seating • Public art/ historic sites • Retail use and public places	• Pedestrian scale lighting • Illegal graffiti • Litter • Empty spaces

[3] San Francisco Department of Public Health, Pedestrian Environmental Quality Index
For a list of projects that have used PEQI, see the following link:
http://www.sfhealthequity.org/elements/24-elements/tools/106-pedestrian-environmental-quality-index

The PEQI Score combines these indicators to give the segment or intersection a score out of 100, organized as follows:

- 0-20 is considered unsuitable for pedestrians;
- 21-40 is a segment where poor pedestrian conditions exist;
- 41-60 is a segment where basic pedestrian conditions exist;
- 61-80 is a segment where reasonable pedestrian conditions exist; and
- 81-100 is a segment where ideal pedestrian conditions exist.

The Pedestrian Demand Score can establish the locations where pedestrian standards are required and the PEQI can determine the level or quality those standards must meet.

Because pedestrian facilities and parking areas are located on both sides of Highway 1 along the length of the study area, it is important to provide safe opportunities for pedestrians to cross the highway. Standards could be set for a required density of pedestrian crosswalks based on the type of land use and nearby destinations. Areas of high pedestrian demand (such as major trip generators and access streets for recreational facilities) could require adjacent crosswalks. Alternatively, a standard could be set for the distance between crossing opportunities where the distance has a different impact for different area types (urban, suburban, semi-rural and rural). Safe pedestrian crossings are also affected by the time a pedestrian is required to wait for a sufficient gap in the vehicle flow to allow for safe crossing. The recreational areas and beach access points receive high pedestrian demand. Any recreational area or beach access point should have a direct unbroken ADA compliant facility connecting the recreational facility with Highway 1.

Recommendation

Based on the comprehensiveness of the methodology and the applicability to the objectives of this study, our recommendation is to set a standard of a minimum PEQI score for locations along Highway 1 that have a certain pedestrian demand as defined by the Pedestrian INDEX Walking Demand Score. The standard would include the following components:

- ***The standard for segments along Highway 1 with an INDEX Walking Demand Score between 20 and 29 would be a PEQI score of 41 or higher***
- ***The standard for segments along Highway 1 with an INDEX Walking Demand Score greater than 30 or streets connecting Highway 1 with a beach facility would be a PEQI score of 61 or higher***

Any segment with an INDEX Walking Demand score would not have any standard associated with it given the low number of expected pedestrians. To provide safe and efficient pedestrian crossings, our recommendation is to set a standard of a maximum spacing between pedestrian crossing opportunities of ¼ mile for segments along Highway 1 with an INDEX Walking Demand Score greater than 20. Segments along Highway 1 with an INDEX Walking Demand Score less than or equal to 20 would only require pedestrian crossing opportunities at bus stops, trail heads, and beach access points. This would mean that segments along Highway 1 with a higher concentration of pedestrians would be deficient if they did not provide a safe area for pedestrians to walk away from traffic.

We would also recommend a standard for the maximum time that a pedestrian wanting to cross should be expected to wait for a sufficient gap in the vehicle flow to allow for safe crossing to be set at 45 seconds. The measurement of the expected wait time would be defined by the type of crossing facility as shown in Table 4.

Table 4 - Time for Safe Crossing

Crossing Facility	Expected time for safe crossing
Striped pedestrian crossing	Expected wait times for an appropriate gap to appear in the bi-directional traffic stream
Roundabout	Expected wait times for an appropriate gap to appear in a single direction of traffic approaching the roundabout
Signalized Intersection	Expected time for the pedestrian phase to occur after the call button is pushed
Striped Pedestrian Crossing with flashing beacon	No waiting time

b. Bicycle

Bicycling provides an alternative way to move between the various coastal communities and recreational facilities without a car. Similar to PEQI, the Bicycle Environmental Quality Index (BEQI)[4] presents an alternative quantitative method for establishing standards for bicycle facilities based on safety, vehicle traffic, street design, and land use. **Table 5** shows the categories that are considered when generating a final index score for a segment or intersection.

Table 5 - Bicycle Environmental Quality Index

Intersection Safety	Vehicle Traffic	Street Design	Safety/Other	Land Use
• Dashed Intersection Bicycle Lane • No Turn on Red Signs • Bicycle Pavement Treatment	• Number of vehicle lanes • Vehicle Speed • Traffic calming features • Parallel Parking Adjacent to Bicycle Lane/Route • Traffic Volume • Percentage of Heavy Vehicles	• Presence of a Marked Area for Bicycle Traffic • Width of bicycle lane • Trees • Connectivity of Marked Bicycle Network • Pavement Condition • Driveway cuts • Street grade	• Presence of Street Lighting • Presence of Bicycle Lane or Share Roadway Signs	• Line of site • Bicycle Parking • Retail Use

[4] San Francisco Department of Public Health, Bicycle Environmental Quality Index

Segments and intersections are scored out of 100 to establish how suitable they are for bicycles.

- 0-20 is and environment not suitable for bicycles
- 21-40 is where poor bicycle conditions exist
- 41-60 is where basic bicycle conditions exist
- 61-80 is where reasonable bicycle conditions exist
- 80-100 is where ideal bicycle conditions exist

Adequate bicycle parking at common destinations, such as Pillar Point Harbor, future park-and-ride lots and town centers, is needed for full utilization. In order to accommodate and encourage the use of bicycles, bicycle parking availability standards could be set for such major trip generators as the ones mentioned.

Recommendation

Based on the comprehensiveness of the methodology and the applicability to the objectives of this study, our recommendation is to set a standard of a minimum BEQI score of 61 or higher for bicycle travel along Highway 1.

To encourage bicycle use, we would also recommend a standard that bicycle storage at any beach access point, and any major trip generator or recreational facility located on Highway 1 or SR 92 should have no more than 85% occupancy during an average weekend midday peak.

c. Transit

Setting and meeting mobility and access standards for transit connections to regional destinations such as BART and CalTrain for commute hours and weekends would potentially allow transit to be more competitive with other modes of transportation in the Midcoast and Half Moon Bay. Potential standards could include a maximum time between buses during peak commute times and weekends, minimum operating hours per day and maximum loading factors. While SamTrans does not currently have any maximum load factor guidelines for transit routes, they do identify routes with low ridership for potential removal. San Francisco sets a standard of 85% maximum capacity utilization for Muni service across certain neighborhood entry points during peak hours.

Potential accessibility standards for transit stops could include requiring standard recognizable signage with route number, timetable and route maps. Additionally, availability of park-and-ride lots would allow multimodal access to transit stops. Standards could be set for a maximum amount of time needed for users to drive to a park-and-ride lot and wait for a bus to board. Potential safety standards for transit stops could include requiring bus stops that operate during the evening or at night to have lighting installed. While SamTrans has guidelines that outline the minimum number of riders per day required to provide amenities such as benches and shelters at bus stops, the rural and recreational context of the Midcoast and Half Moon Bay could potentially provide an incentive for setting different ridership guidelines for bus stop amenities. Possible bus stops that would require a certain level of amenity could include major trip generators, intersections of two major roads, and any intersection of a transit route with a bike path. For bicycles to have access to transit, standards could be set for

required bicycle parking at stops with a minimum ridership such as future park-and-ride locations, for transit stops that intersect a Class I bike path, and popular destinations.

Recommendation

To avoid overcrowding of transit services, our recommendation is to set a standard for the transit capacity utilization of buses standing capacity within the study area not to exceed a two-hour average of 85% during the weekday commute peak period and the weekend recreational peak period. As regional demand in and out of the study area increases, the frequency of service would need to be increased or new bus routes would need to be added to continue to meet the capacity utilization standard.

While SamTrans has existing ridership standards for benches and shelters at bus stops, we recommend that the standard for the study area would recognize the lower transit demand of a rural coastal setting to provide safe and comfortable bus stops for transit users. The existing SamTrans ridership standard and recommended ridership standard to supplement SamTrans provided amenities is shown in **Table 6***. As transit demand increases, more of the existing bus stops would need to be updated with additional amenities.***

Table 6 - Bus Stop Amenity Standards

Minimum Ridership Required	Bus Stop with Bench	Bus Stop with Shelter
Existing Standard used by Samtrans	125	250
Recommended Standard	25	100

d. Parking

Parking requirements or standards are often based on expected demand for adjacent and nearby land uses and standards for parking availability. Parking availability is often measured within a ¼ mile distance of the land use as it represents the distance most people are willing to walk to access a destination. Because different land uses often have different parking peaks, parking standards can allow for shared parking use to recognize more efficient use of available parking between several land uses.

Because recreational uses similar to those found in the Midcoast and Half Moon Bay often do not have formally striped parking spaces, some parking standards for recreational uses are defined by area of parking availability.

Recommendation

To ensure that there is adequate parking at Coastside recreational facilities and other attractions, our recommended standard is that any beach access point should have no more than 85% parking occupancy during an average weekend midday peak within ¼ mile of the recreational parking facilities as shown in Figure 1. As parking demand increases because of new development or increased regional demand, the standard could be met with improved signage, partnerships with existing lot owners, fees for use of the parking, increased multimodal access to recreational facilities, or with increased parking facilities,.

Figure 1 - Recreational Locations with Parking Availability Standards

Attachment:

SAN MATEO COUNTY PEDESTRIAN INDEX WALKING DEMAND SCORE FOR THE STUDY AREA

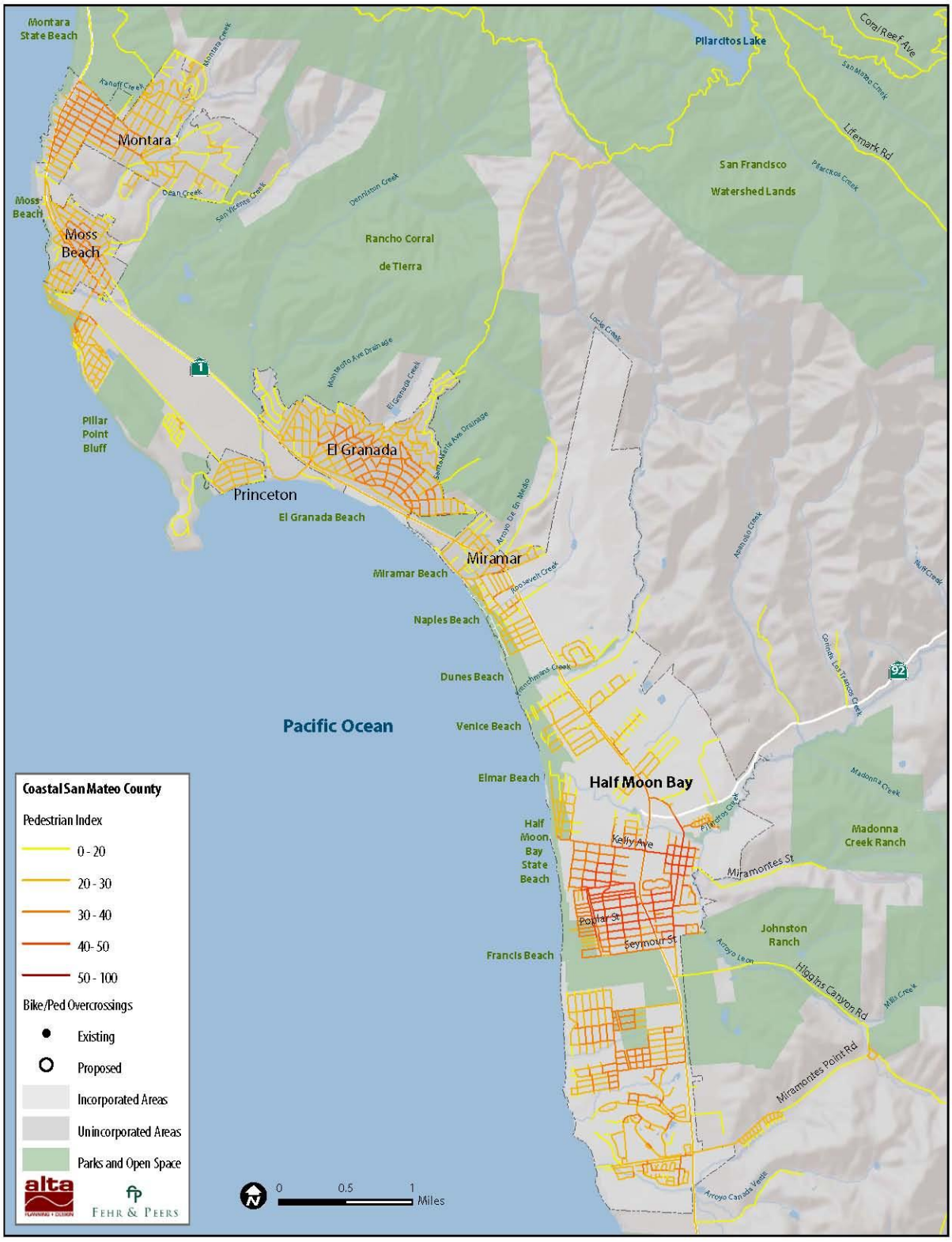

Figure C-3: San Mateo County Pedestrian INDEX Walking Demand Score -Coastal