



To: Torina Wilson, Transportation Planner, City of Santa Rosa
From: Mauricio Hernández, Alta Planning + Design
Date: September 6, 2023
Re: Scope of Services for the City of Santa Rosa Bike and Pedestrian Plan Update (DRAFT)

Scope of Services (DRAFT)

The anticipated scope of work for the City of Santa Rosa Active Transportation Plan is described below. We have proposed a set of core tasks that maximize your funds by focusing on your main priorities with a menu of enhanced optional services should additional funding be available. **The work is assumed to be completed within 12 months.** We look forward to working with you to refine this scope of work to meet your needs and stay within your allocated budget.

Task 1 - Project Management and Coordination

1.A - Kick-off Meeting

Alta will plan and facilitate a project kick-off meeting with the Project Management Team (PMT) which will include the core of the working team from the City and the Alta team. Recommended objectives for the kick-off meeting include:

- Confirm scope, schedule, and budget.
- Review project goals and objectives
- Establish overall expectations, including communication channels and protocols.
- Confirm anticipated schedule for project management meetings, invoicing, and progress reporting.
- Discuss initial data needs.
- Discuss outreach and engagement strategy.
- Discuss anticipated level of effort required for data inventory and updates.

Alta will provide a kick-off meeting packet with the agenda ahead of the meeting. Following the kick-off meeting, Alta will provide meeting notes, an updated scope and timeline of the project based on feedback received from the PMT and deliver a Data Request Memo to request GIS and other available data needed to perform project analyses and create base maps. After delivery and review of GIS data an additional meeting may be convened to discuss data quality and refine plans for data inventory and updates including possible reallocation of scope or modification to analysis approach.

1.B - Data Request Memo

Following the kick-off meeting, Alta will develop and deliver a memo to request relevant background documents, GIS and other available data needed to perform project analyses and create base maps. It is anticipated that some of this data will need to be provided by the City of Santa Rosa while other pieces of data will be gathered through other public and private data sources such as the City's Open Data Portal. Alta will prepare, submit, and obtain written approval of a data collection plan for review by the project manager prior to collecting the data. The spatial data will be annotated with purpose (e.g., base maps, or analysis) and will include notation as to whether data is a critical input for task completion (e.g., collision data is required to

complete crash analysis tasks). If a critical data input is not available, proxy data may be used, or adjustments may be made to scoped analysis.

At the beginning of the project, Alta will meet with the City's project manager to discuss the existing GIS schema and develop an agreed upon GIS data structure for the duration of the project. At the completion of the project, Alta will provide the project's GIS data in an ESRI file geodatabase. Deliverables include a file geodatabase, any custom symbol sets developed for the project, layer files used to develop any products, project file(s) (MXD), and metadata for developed feature classes.

1.C - Project Management Team Meetings

Throughout the duration of the project, there will be ongoing coordination between Alta's Project Manager and the City's project manager—including email, phone, and written communication to keep City staff up to date on the development of the plan. Additionally, Alta will coordinate bi-monthly project management team (PMT) meetings with City staff and other key members of the project team. Alta will prepare agendas and meeting notes for status meetings. These meetings will allow for close communication on upcoming tasks and review of deliverables. Meetings may be held more frequently when appropriate and necessary. The proposed scope of work assumes a 12-month timeline and that these meetings will be held via video conference unless otherwise specified.

1.D - Project Management and Oversight

Alta will provide monthly project status updates for the team's work that will include budget and deliverable progress. Monthly project status reports will be included with each monthly invoice. Reports will also summarize tasks completed and outline tasks to be completed over the next 30 days. Alta has access to a variety of traditional and cloud-based tools for project management, which can provide all team members with the ability to track the project schedule, view meeting minutes and key action items, and better understand critical path tasks. We will discuss the best option that aligns with the City's available technology and preferred project management tools.

TASK 1 DELIVERABLES

- Kick-off meeting agenda, facilitation, and notes
- Data Request Memo
- Monthly project meeting agendas and notes (assumes 12-month project)
- Monthly invoices and progress reports (single monthly invoice, with budget/progress)

Task 2 - Existing Conditions/ Data Collection

2.A - Plan Review

Alta will request available relevant data, plans, policies, and regulations currently available, as part of the Data Request Memo. Alta will review relevant approved planning documents to develop an understanding of the local policy baseline and active transportation plans and networks in Santa Rosa. In addition to reviewing infrastructure-focused plans, this will include consideration of the pattern of future growth and development and the impact that is expected to have on active transportation demand. Documents to be reviewed by Alta may include, but are not limited to:

- 2018 Santa Rosa Bicycle and Pedestrian Master Plan
- Adopted Santa Rosa 2035 General Plan
- Santa Rosa Forward General Plan Update process
- Citywide Creek Master Plan
- Southeast Greenway Approved General Plan Land Use Map
- Santa Rosa Roseland Area/Sebastopol Road Specific Plan

- North Santa Rosa Station Area Specific Plan
- Downtown Station Area Specific Plan
- Santa Rosa Vision Zero Implementation Plan
- Sonoma County Vision Zero Action Plan
- Santa Rosa Local Road Safety Plan

Alta will work with the City's PMT to finalize the list of approved plans to review at the onset of the project. Alta will summarize all reviewed plans in a plan review matrix highlighting key recommendations, policies, and projects which may affect the Active Transportation Plan Update as well as areas where the former Bicycle and Pedestrian Plans can be strengthened.

2.B - Active Transportation Network Inventory

To better utilize existing resources, Alta will utilize a two-pronged approach to developing a network inventory that includes a desktop review of existing data, complemented by selective fieldwork to verify critical elements of the City's existing bicycle and pedestrian infrastructure.

First, Alta will develop a basemap denoting key cartographic features in Santa Rosa that relate to active transportation including streets, parks, schools, topography, and key points of interest. This basemap will be shared with City staff for one (1) round of comments to inform edits to the layout, labeling, cartographic style, and other presentation elements of the maps. As part of this basemap preparation, Alta will conduct an initial review of open data sets provided by Santa Rosa's Open Data portal, OpenStreetMap, and other data resources.

Following the collection of GIS Data, the Alta team will review the City's existing bicycle and pedestrian infrastructure data. Alta will review the City's GIS database of existing bicycle facilities, including parking and wayfinding, for completeness and access to key activity areas for active transportation including commercial centers, transit stops, schools, community centers, senior centers, and parks. Alta has reserved up to 8 hours to review the quality of provided project data and fix minor issues with the data. If the data provided is not suitable for task completion, we will notify the City and can provide options of alternate data sets (from OpenStreetMap, our AI-Derived data partners, or other available data) or develop an amendment identifying the cost and schedule impacts associated with cleaning and preparing the data for project tasks.

Alta will complement this desktop review of pedestrian facilities by utilizing AI generated systems to convert high-resolution aerial images of the earth into HD Vector Maps and transfer them into GIS shapefiles and layers. Leveraging the most up-to-date imagery sources available, the Alta team will apply advanced AI systems to rapidly generate HD Vector maps of the following features:

- Existence of Sidewalks + Estimated Width
- Existence of crosswalks

Our vendor provides quality assurance guarantees to address concerns with their data. Alta's experience with AI derived data is that it provides an inexpensive option for data collection at the scale required for active transportation analysis. Alta will budget time to review the quality of the data, document issues, and identify assumptions that might be required for analysis based on it.

To document existing facilities, Alta will develop a set of maps, tables, and narrative that describe the existing pedestrian and bicycle networks and conditions. This will include digital maps of the existing facilities data provided by the City.

2.C - Safety Analysis

The project team will gather bicycle, pedestrian, and motor-vehicle collision data from TIMS/SWITRS. TIMS provides standardized geotagged crash data that can be directly input into GIS for spatial analysis, however it does not include any property damage (PDO) crashes. SWITRS data includes PDO crashes but can often require significant data cleaning and isn't geotagged. It does, however, allow for more comprehensive crash trend analysis. These collision data sets will be used to identify key collision trends, and to map severity weighted densities for bike and pedestrian collisions along the study

corridors. Severity weighting measures each crash according to its KABCO injury severity rating, with fatal crashes receiving the highest weights. Where possible, the density calculations will employ network distances as someone would ride or walk rather than straight line or “as the crow flies” distances that distort proximity.

2.D - Equity Priority Communities Analysis

Alta will conduct an equity analysis using a data-driven approach that identifies concentrations of historically disadvantaged or vulnerable populations using public health and demographic indicators. Special attention will be paid to demographic groups who are likely to face mobility restrictions including populations that are low income, lack vehicle access, face high pollution burdens and health disparities, and are ethnic minorities. As we’d like the City to utilize this analysis following the development of this plan, Alta suggests sourcing this data primarily from MTC’s Equity Priority Communities as well as Climate & Economic Justice Screening Tool data which are included as preferred criteria for federal and regional funding programs. Locations of affordable housing, available on the City’s Open Data Portal, and other federal and regional datasets could also be used to customize the analysis based on local priorities and contextual needs. Up to 10 final variables will be selected and weighted in consultation with the City. This information can help guide prioritization of facilities so that multimodal improvements are benefiting vulnerable community members who could use more travel options and improve access to life-enhancing services and community centers. This analysis will map areas of high need as defined by concentration of population indicators; the results will also be summarized in a brief memo. The results may be incorporated into the prioritization criteria for the project.

2.E. - Bicycle and Pedestrian Level of Traffic Stress

As part of the 2018 BPMP, Alta completed a Bicycle Level of Traffic Stress (BLTS) analysis for the existing street network considering existing bicycle facilities. We utilized a simple, hierarchical approach to network coding and used the results to develop the recommendations included in the 2018 plan. As the city has already completed some improvements to its bicycle network, Alta would like to develop an updated BLTS analysis to understand where deficiencies still exist on the bicycle network.

In addition to this BLTS analysis, Alta proposes completing a Pedestrian Level of Traffic Stress for the Santa Rosa roadway network. We developed this innovative analysis that we will apply to the study network to understand pedestrian connectivity and access throughout the city. This recommended approach is consistent with current national best practices for evaluating existing pedestrian networks. This network will be based on the preliminary LTS analysis derived from OpenStreetMap data and is intended to identify large facilities with high-speed traffic that could pose a soft barrier to bicycle activity. These preliminary networks will be refined based on data collected from analyses and based on consultation with relevant staff and stakeholders. Our analysis will illustrate how stress barriers (e.g., challenging crossings) can create areas of dis-connectivity and islands along what otherwise appear to be low-stress roadways. The pedestrian network for this analysis will be derived from OpenStreetMap data, and iteratively refined through the collection of more detailed segment- and intersection-level factors. Pedestrian connectivity and access to amenities is measured with the understanding that the quality of a pedestrian’s experience is influenced by several physical factors at both the intersection and segment levels. Segment-level factors can include elements like presence (or lack of) sidewalks, the type of roadway, presence of street trees, and speed of traffic. Intersection-level factors can include presence (or lack of) curb ramps, type of traffic control device (e.g., signal, stop sign, and so on), and types of converging roads. Not all these factors are available in all locations, but where unavailable, Alta will derive suitable proxies where appropriate. Based on these factors, a single PLTS score will be generated, ranging from 1 to 4, with 1 being the least stressful and 4 being the most stressful. PLTS scores can be applied to help identify specific projects and applied to the pedestrian network to help model a pedestrian’s experience by identifying situations where a less stressful (albeit slightly longer) route exists for a given origin and destination based on this analysis. There will be 8 hours reserved for refinement and edits to the LTS networks after staff and stakeholder reviewer and consultation.

The outcomes from the proposed analyses will be essential inputs for the successful completion of Task 5.A, Fifteen Minute City analysis.

2.F - Active Trip Potential

Walking and biking is not feasible on all trips due to unsupportive infrastructure or long trip distances. While emerging modes such as E-Bikes and E-Scooters provide new options, ranges, and convenience, their ability to affect change is still contextual. While we documented local destinations including hospitals, shopping centers, and schools in the 2018 BPMP, Alta proposes the use of local travel demand models, Replica Places, or StreetLight2 Origin-Destination (OD) data to understand existing travel patterns with special attention on short trip distances that can be made as active trips. Based on this information, Alta will provide estimates of the percentage of trips that have trip distances that can be served by either active modes or electric micromobility. A heat map will be generated for the percentage of trips that could be served via walking, biking, or electric micromobility throughout the study area. This analysis often points to locations where latent demand exists for active transportation, and adding supportive infrastructure is likely to generate more active trips. In addition to this heatmap, Alta will provide an interactive visualization of origin-destination flows in the form of an Alta Flow Dashboard.

2.G - Existing Conditions Summary

Alta will synthesize findings and analysis into a graphic-rich existing conditions memo. Findings, presented with narrative, maps, and graphics, will support work during the public outreach phases of the project and will form the basis for development of project recommendations. At the end of the project, Alta will provide the City with GIS shapefiles and attribute tables used in the analysis.

To complement our bicycle LTS model, Alta has developed a pedestrian level of traffic stress (PLTS) analysis that we will apply to the study network. The pedestrian network for this analysis will be derived from OpenStreetMap data, and iteratively refined through the collection of more detailed segment- and intersection-level factors. Pedestrian connectivity and access to amenities is measured with the understanding that the quality of a pedestrian's experience is influenced by a number of physical factors at both the intersection and segment levels. Segment-level factors can include elements like presence (or lack of) sidewalks, the type of roadway, presence of street trees, and speed of traffic. Intersection-level factors can include presence (or lack of) curb ramps, type of traffic control device (e.g., signal, stop sign, and so on), and types of converging roads. Not all these factors are available in all locations, but where unavailable, Alta will derive suitable proxies where appropriate. Based on these factors, a single PLTS score will be generated, ranging from 1 to 4, with 1 being the least stressful and 4 being the most stressful. PLTS scores can be applied to help identify specific projects and applied to the pedestrian network to help model a pedestrian's experience by identifying situations where a less stressful (albeit slightly longer) route exists for a given origin and destination based on this analysis. There will be 8 hours reserved for refinement and edits to the LTS networks after staff and stakeholder reviewer and consultation.

TASK 2 DELIVERABLES

- Plan review and related tables and narrative
- Draft and final memo including the following information:
 - Map of equity scores for the study area, highlighting areas of highest need
 - Methodology Memo and Equity analysis results and memo
 - Proposed equity analysis approach, with one round of comments
 - Final map of areas of high need and related narrative
 - Key infrastructure gaps for walking, rolling and transit and related narrative
 - Heat map of collision analysis results
 - Climate analysis and related narrative
- One Bike LTS map
- One Pedestrian LTS map
- Geodatabase of LTS feature classes
- One heat map showing potential for active trips or micromobility
- Alta Flow interactive visualization of origin-destination flows

Task 3 - Public Engagement

3.A - Public Engagement Plan

Alta will work closely with the city PMT to develop a Community Engagement Plan (CEP) that will outline the strategies and resources to be used to meaningfully engage with local communities, including those who are typically difficult to reach. The CEP will also include a schedule of activities, deliverables, and anticipated actions required of the City. We are sensitive to the limits on participants' time, and will structure outreach and engagement opportunities that align with existing anticipate the CEP will describe outreach activities that will take place over two phases:

- PHASE 1: DISCOVERY - Understand the unmet walking and bicycling needs for the City's residents, commuters, and visitors.
- PHASE 2: RECOMMENDATIONS - Provide opportunities for the public to refine project and program recommendations and inform the prioritization and implementation process.

We anticipate that the CEP will also include a list of organizations and contacts at Equity Priority Communities and CBOs to focus on and ensuring that these communities achieve equitable access to safe active transportation.

3.B - Bicycle and Pedestrian Advisory Board Meetings

Through our work in the City's 2018 BPMP we learned the importance of having the Bicycle and Pedestrian Advisory Board (BPAB) participate in a meaningful end throughout the duration of the project. To this end, Alta will facilitate up to six (6) meetings with the Bicycle and Pedestrian Advisory Board (BPAB). To maximize the budget allotted for the development of the Plan, Alta anticipates hosting these online meetings at key stages of the project including:

- Introduction of the project, final scope, and project timeline
- Presentation of the findings from the Existing Conditions
- Request feedback on the development of plan goals and objectives
- Request feedback on recommended improvements and proposed prioritization criteria
- Presentation of the DRAFT Master Plan
- Presentation of the FINAL Master Plan to be presented to council

We anticipate working with the City to serve as a conduit for information sharing and requesting feedback from the BPAB during the duration of the project. To maximize existing budget and help streamline the development of the Plan, we propose that these meetings be hosted through a combination of in-person and virtual meetings.

3.C - Pop-up Engagement

People live increasingly busy lives, and fewer people today have the opportunity to attend conventional public meetings. Even before COVID-19 limited our ability to engage with the public, traditional community meetings posed challenges for individuals who work nontraditional hours, need childcare support, and do not receive broad notification. To make it easier for people to learn about and provide input, we will bring the project to the public. The Alta team will facilitate up to six (6) mobile workshops (i.e., Pop-up meetings) where there is a high concentration of people throughout the duration of the project. If people are uncomfortable speaking with staff, information will be posted to direct people to engage online. These Pop-up Meetings will be held in different parts of the city so that a wide range of residents, commuters, and visitors have an opportunity to engage with the project. By focusing on establishing a presence at planned community gatherings and festivals, the Alta team will leverage attendance of large-scale events to generate broad-based engagement and interest in the ATP. Events will be strategically selected to connect with people of all ages and abilities, many of whom are disproportionately reliant on active transportation. This includes students, seniors, people with disabilities, and low-income residents. Events that draw residents of disadvantaged neighborhoods will be a particular focus, requiring coordination with local community-based organizations to circulate event notifications. Spanish language materials and translation will be provided by Alta.

The proposed budget for this task includes up to six (6) four-hour events for up to two (2) Alta team staff and travel time. It is anticipated that staff will use collateral materials developed during other tasks for these pop-up meetings.

3.D - Public Meetings

Alta will lead up to three (3) community workshops to 1) seek input on unsafe roadways and ideas for addressing collision risks and garner feedback issues surrounding bicycling and walking throughout the City; and 2) garner feedback on the recommended improvements, and 3) request public input on the Draft Plan and provide an opportunity for public review and comment. We anticipate working with the city to host at least two of these meetings in person will look to the city to lead the logistical considerations for these. For each meeting, Alta will prepare meeting presentations and collateral materials (ex. display boards, maps, agendas, handouts, questionnaires, sign-in sheets, and comment cards). We will coordinate with the city to invite representatives from the Sonoma County Bicycle Coalition and other CBOs. Alta will provide up to two staff for each meeting.

3.E - Online Outreach (Website, Webmap)

Alta will develop a mobile-friendly project webpage that includes an online interactive community input map allowing the public to identify priority destinations for biking, routes they would like to see improved, and similar feedback.

Website Hosting and Development

Our in-house website development team will develop an interactive project website. The webpage will provide a location to:

- Promote outreach and education materials
- Host the proposed public surveys
- Document workshops, public events, and other in person engagement opportunities
- Allow members of the public to provide feedback on the Draft Plan and eventually view the Final Plan

The website will be hosted in up to two (2) languages. We will work with the City PMT to determine the final languages.

Interactive Input Maps and Community Survey:

Discovery Phase

To increase the opportunities for the public to provide meaningful input and feedback, the Alta team will develop an online interactive community survey in up to two (2) languages. Alta has developed a technology to support online survey and map input that works well on computers, tablets, and phones. The tool will be structured to enable users to provide feedback in the form of points and lines on the map with information such as:

- Bicycle/pedestrian network gaps
- Frequently used routes
- Difficult crossings
- Origins and destinations
- Desired transportation and recreational routes
- Desired bike parking and other support facilities
- Desired bicycle/pedestrian/transit integration improvements

This interactive tool has generated hundreds of comments for many of our previous and existing projects, including the Richmond Bicycle and Pedestrian Action Plan, Santa Clara County Active Transportation Plan, and the Contra Costa Active Transportation Plan. See SacStreetsforPeople.org for a current live example of an interactive input map. The maps can be brought to community meetings and pop-up workshops on iPads to encourage additional engagement from those without access to the internet.

Implementation Phase

To provide opportunities for the public to refine project recommendations and inform the prioritization process, Alta will develop a second community map survey which will be distributed in the same manner as the first community survey. Feedback received will help inform the recommended improvements as well as the prioritization criteria to be used in the development of the final recommendations.

Interactive Draft Plan:

The Alta team also proposes posting an interactive PDF of the draft plan to the project website. In past projects, Alta has successfully garnered community input on the draft plan. Interactive PDFs allow the public to post comments directly onto the pages of the plan, noting areas of improvement. These comments can then be reviewed by the Alta project team and incorporated into the Final Plan.

3.F - Stakeholder Engagement

We anticipate the public outreach process will have two major phases: the first phase will solicit feedback on existing conditions, key destinations, and community concerns from City and regional stakeholders in targeted community meetings. We envision these as focused listening sessions to discuss key issues around active transportation relevant to each organization or group's mission. Potential Stakeholders include Planning Commission, City Council, Sonoma County Bicycle Coalition, local CBOs, and business associations including the Santa Rosa Metro Chamber and the North Bay Small Business Incubator.

As part of the first phase of the project, Alta anticipates hosting up to two (2) stakeholder meetings to be held at the beginning of the process to understand initial concerns and perspectives around active transportation, share goals of the planning process and background information about the project, and identify opportunities to maximize engagement moving forward.

The second phase will focus on public outreach to engage local and regional stakeholders to provide input on the active transportation network analysis and program and policy recommendations. Alta anticipates hosting up to two (2) virtual stakeholder meetings during this phase of the project.

TASK 3 DELIVERABLES

- Draft and Final Public Engagement Plan
- Attendance at up to six (6) Bicycle and Pedestrian Advisory Board Meetings
- Attendance, collateral materials, and summary for up to six (6) pop-up meetings
- Attendance, collateral materials, and summary for up to three (3) public meetings. Two meetings will be hosted in-person and one meeting to be hosted virtually.
- Online outreach - website, webmap, PDF commenting tool
- Attendance, collateral materials and summary for up to four (4) stakeholder meetings

Task 4 - Goals and Objectives

4.A - Draft Goals and Objectives

Alta will work with the City to develop a set of quantifiable goals and objectives that are in line with current conditions and the priorities set forth by the City's General Plan. We will seek to incorporate the City's Bicycle and Pedestrian Advisory Board feedback and consider the intersectionality between safety, connectivity, equity, mobility, and sustainability. The process will also consider metrics used by other local and regional agencies. We will draw on our national library of best practice policies, as well as our work developing performance measures including such guidebooks as FHWA's Measuring Multi-Modal Network Connectivity. Through this task, Alta will also work with the City to identify existing policies that may need to be revised for a successful Plan and will serve to inform the development of recommendations. As part of this task, Alta will develop a draft Goals, Objectives, and Measurable Outcomes memo for the City to review and comment. This set of measurable outcomes will focus on the medium-term (5 years) and long-term (2050) implementation phases.

4.B - Final Goals and Objectives

Alta will update the Goals and Objectives memo to reflect the comments by City staff and the BPAB. A final memo will be developed as part of this task and will drive the recommendations to be developed as part of Task 5.

TASK 4 DELIVERABLES

- Draft Goals, Objectives and Measurable Outcomes Memo
- Final Goals, Objectives and Measurable Outcomes Memo

Task 5 - Active Transportation Network Analysis

5.A - Fifteen Minute City Analysis

The fifteen-minute city is gaining popularity as a concept where daily needs can be met within a fifteen-minute walk or bike ride in one's own neighborhood. During the public outreach phase, Alta will identify 3-5 key destinations of importance to the community. Alta will also leverage City and public data sources to map key destinations such as libraries, schools, and grocery stores. Alta will combine these with results from the LTS analysis to develop an understanding of how connected these destinations are for people who want to walk and bike in 15 minutes or less. This analysis will calculate a connectivity score based on the number and quality of selected destinations reachable within a low stress walk or bike ride from each hexagon. The scores could be weighted such that proximity to a large park yields a higher score than proximity to a small park. The output will identify areas that could benefit from investments in infrastructure or amenities to support short active trips and reduce dependence on vehicles. Alta will use a hexagonal grid overlay to assign a score to each hexagon of the study area. The result depicts connectivity at a high level of granularity.

To help envision what is possible with improvements, Alta can develop a second map that shows connectivity scores as if every roadway were an LTS 1 for pedestrians and bicyclists. This allows City staff to see where a fifteen-minute city is possible with infrastructure improvements, and whether the barrier is poor infrastructure or distance to amenities. Areas with a high discrepancy between possibility and reality could be prioritized for infrastructure improvements.

5.B - Climate Mitigation Benefit Scenario Planning

Based on Alta's Active Trip Potential analysis (Task 2.F), Alta will develop a climate benefit analysis that identifies what reduction in emissions are possible based on plan implementation. This analysis will examine the current rates of active and short trips that can be served by active modes or electric micromobility and will estimate the low and high annual emission reductions possible because of conversions of short trips to walking, biking, or electric micromobility. This analysis will be grounded in the current rates of short trip taking around a ½ mile area of the planned active network, and potential rates of conversion based on available literature, federal emission factors, travel survey results, and comparable jurisdictions. The results of this analysis will be communicated through an infographic showing the expected emission benefits of plan implementation.

In addition, Alta will combine the data sources from the California Heat Assessment Tool and Tree Equity Score to create a map that reflects heat vulnerability and tree canopy coverage. This data can be used as an input in the Prioritization, Task 6.D.

5.C - Active Transportation Network Summary

Alta will produce a series of maps, tables, and related narrative that describe gaps and needs, developing chapters for the Plan that synthesize this information into critical needs and gaps that can be addressed by the City. Particular attention will be placed on the intersectionality of improving safe routes to school and safety (i.e., Vision Zero) for all roadway users. Information from the public outreach process will also be integrated into this process.

TASK 5 DELIVERABLES

- Map showing a connectivity analysis accounting for traffic stress.
- Infographic depicting access gains for the typical resident as a result of proposed improvements.
- Draft and final approach/methodology memos
- Infographic showing a heat map of expected emission benefits
- Map of combined tree canopy coverage and heat vulnerability
- Draft and final Active Transportation Network Summary

Task 6 - Project Definition and Recommendations

6.A - Bicycle Network Recommendations

Alta will develop recommendations to improve bicycling throughout the city with a focus on creating a network for all ages and abilities. This task will be informed by existing best practices, outcomes from the Existing Conditions Analysis (Task 2), Active Transportation Network Analysis (Task 5) and public input. Maps depicting existing, funded, and proposed bikeway projects will be developed along with a project list with the project name, proposed facility type, segment endpoints, and segment length for each recommended improvement. The proposed recommendations may include a variety of bikeway types for various skill levels and ages, including but not limited to discussing and mapping locations where Class IV bicycle facilities and separated intersections are most appropriate, and other bicycle capital improvement projects (e.g., traffic calming, bicycle parking, etc.). Alta may consider utilizing its state-of-the-art connected islands assessment to denote various scenarios based on the implementation of differing facilities. The proposed improvements may also incorporate previously proposed or planned facilities.

6.B - Pedestrian Network Recommendations

The Alta team will review previously identified sidewalk needs and pedestrian crossing enhancements as well as identify new candidate projects based on the locations of plans to intensify development through the Preferred Land Use Plan identified in the General Plan Update, near-term development projects, and available pedestrian crossing data to assess existing and anticipated locations of high pedestrian demand. Recommended improvements will have a focus on improving accessibility and safety for people of all ages and abilities. Alta will also be informed by advancements in ADA accessible design guidance, outcomes from the Existing Conditions Analysis, Active Transportation Analysis (Task 5) and public input. To best utilize available resources, crossing improvement recommendations will be limited to arterial and collector streets, with an emphasis on locations with existing marked crosswalks. Previously identified projects from the 2018 BPMP and the City's 2014 Uncontrolled Crosswalk Analysis that have not been implemented will be tabulated. Recommendations for new marked crosswalks will also be identified based on current needs and anticipated development that is expected to generate significant pedestrian demand. To complement the recommendations, the Alta team will field selected crossings.

6.C - Policy Recommendations

While engineering and infrastructure solutions are important, the ATP will also address the education, enforcement, and encouragement programs that can help make biking and walking more accessible to residents and visitors, as well as the ongoing evaluation of these programs and new infrastructure. Drawing on the socio-demographic analysis in Task 2 and the medium-to-long-term measurable objectives developed as part of Task 4, Alta will recommend non-infrastructure programs, identifying responsible implementing departments, agencies, or partner groups. Recommendations will be based on best practices and proven records of effectiveness and will incorporate equity principles. Alta is the only active transportation firm with a department dedicated to planning and implementing education and encouragement components of active transportation programs including workshops, contests, and other promotional activities. The Alta team will utilize our expertise in developing and leading TDM and other active transportation programs to develop a customized and achievable set of recommendations.

6.D - Network Prioritization

Prioritization allows us to bring our values to data to understand which projects will provide the greatest return on investment and help communities identify where to start. Alta's Civic Analytics team has developed tools to streamline metric creation, score development, and overlay processes to efficiently deliver prioritization analysis in either GIS or Excel. Based on the types of data available, Alta can use qualitative scoring or percentile-based scores for comparing up to eight different metrics of success for the entire study area. Metrics will be defined in consultation with the Client. This approach overlays a hexagonal grid on the study area and evaluates need and project impact on a micro level, enabling flexibility in project extents, future assessments, and changing physical conditions. As a result of the entire study area being scored, project scores are derived from the intersection of project extents with the disaggregated scores of the hexagon grid. The whole area prioritization approach also creates opportunities to evaluate different prioritization scenarios. Alta will establish weighting schemes for

each of these scenarios and provide draft results for review by relevant stakeholders. Based on stakeholder review and a sensitivity analysis of results based on different weights, Alta will develop final maps for a preferred prioritization approach.

6.E - Cost Estimates, Funding and Maintenance Strategy

A critical question for any active transportation project is how to fund the proposed improvements both initially and to maintain them over time. Alta has significant experience helping cities in the California apply for and receive Caltrans Active Transportation Program (ATP) and Highway Safety Improvement Program (HSIP) grant funds and we have had significant success nationally helping agencies apply for Federal RAISE (formerly BUILD/TIGER) grant funds for active transportation projects. The Alta team will leverage its knowledge of funding for active transportation projects to develop a relevant list of funding streams for project implementation. We will work with City staff and regional partners to identify available funding sources for further planning, engineering, and construction work. This will help the City identify both priorities and appropriate methods for implementation, including relevant funding sources.

The implementation strategy will include consideration of several factors that determine the feasibility of projects. These include funding sources and strategies, technology integration, construction strategies, and stakeholder/jurisdictional partnership. Each project category will be described in terms of the opportunities, constraints, and other considerations for each category. We will leverage our extensive understanding of available grant programs. Alta will create an implementation plan that assembles priority projects into “implementation packages” and phases them for either short-term implementation pathways such as: street resurfacing or quick-build; medium-term such as aligning with the capital improvement plan (CIP) and upcoming private development; or long-term requiring external funding, ROW acquisition, or further analysis.

Planning level cost estimates will be developed for bicycle and pedestrian on- and off-road facilities based on existing industry costs and comparable recent City projects. Alta will work with the city to provide generalized planning-level cost estimates for typical improvements. Cost estimates may include both hardened more permanent improvements as well as quick-build options. Capital costs will be calculated for prototypical strategies and then adjusted as needed to fit the local context. These benefit-cost calculations will be developed with compatibility to Cal B/C to simplify future grant application opportunities.

TASK 6 DELIVERABLES

- Memo and related maps/figures for the following topical areas:
 - Infrastructure recommendations
 - Bicycle-related
 - Pedestrian-related
 - Prioritization methodology and related maps on a hexagonal level for up to two scenarios
 - Generalized planning cost estimates
 - Programmatic and policy recommendations

Task 7 - Active Transportation Plan

7.A - Administrative Draft Plan

Alta will prepare and circulate an administrative draft plan that will include all elements outlined in the Tasks above for review by City staff. The Plan will consist of content drafted and approved working memos from previous tasks, and summary of public engagement. It is anticipated that City staff will compile and organize comments for response and provide direction for the revisions. Alta will provide at least four (4) weeks for City staff to complete the Administrative Draft Plan review.

7.B - Public Draft Plan

Following the City’s comments on the Administrative Draft, Alta will develop a public facing Draft Active Transportation Plan Document. The Draft Plan will be an attractive, reader-friendly, graphic-rich document. It is anticipated that the Public Draft Plan will be presented in Phase 2 of the public outreach to be led by the City’s community outreach consultant. Alta will work with the City to post the document on a project website for public comment for a period of at least one (1) month. It is anticipated that Alta will address up to one (1) round of consolidated non-contradictory comments.

7.C - Final Plan

Alta will revise the draft plan and produce a final plan based on public comments and guidance from City staff. Alta will provide the City a minimum of two (2) weeks to conduct a final plan review to identify remaining 'fatal flaws'. Alta will revise the Final Plan based on one (1) set of consolidated non-contradictory City comments.

7.D - Final Plan Presentation

As part of this task Alta will present the Final Plan to the City Council (1 meeting) for consideration and adoption. Alta will prepare one PowerPoint presentation to summarize the final comments received and will present the final plan at each of these meetings. We anticipate this meeting to be 2-to 3-hour meetings.

TASK 7 DELIVERABLES

- Administrative Draft Plan
- Public Draft Plan
- Final Plan
- Presentation to City Council

Optional Tasks

Project Data Sheets

Alta will create project data sheets for priority projects identified by the City, that capture:

- Summary information about the project—location, improvement characteristics
- Existing and proposed cross section
- An illustrative simulation that provides an easy means to understand the future project
- Information on potential trade-offs required to implement the project (e.g., impacts to parking, vehicle lanes, etc.)

These data sheets are often useful to support grant applications and to provide decision makers and the public with clear information about proposed priority improvements.

Warrant Analyses

The Alta team will prepare warrant analyses to develop recommended enhancements, including rapid flashing beacons (RRFBs), pedestrian hybrid beacons (HAWK signals), or other treatments. The Alta team will work with City staff to develop a list of potential locations to conduct these analyses.

Project Branding and Logo Development

In coordination with the city and project team, Alta will develop a project brand and logo to be used on all project materials, including print and digital collateral used throughout the project. Alta will develop up to three (3) draft concepts for Logo and Branding of the entire Active Transportation Plan. Alta will provide these concepts to the City for internal review. Based on up to two (2) rounds of internally consistent comments from the City, Alta will develop a final Logo and Branding Standards which will include a unifying color palette to be used in all project materials. Alta will also provide two vector graphics of the logo (one in color and one in black and white) to be used on all project materials.

Active Transportation Audits

The Alta team will support the City in conducting and facilitating up to two (2) walk or bicycle audits. The goal of the audits will be to highlight barriers and concerns and assess existing conditions related to active transportation. Alta will oversee coordination and promotion of the audits while managing audit logistics such scheduling with community partners, route planning, developing printed materials like route maps or checklists, and providing a summary of findings. Alta will also coordinate translation/interpretation services as identified by community partners. Alta has resources / budget to provide interpretation for up to one additional language if needed but will require RSVP of attendees to ensure that interpretation resources can be appropriately arranged in advance.

Conceptual Plans for Proposed Projects

The Alta team has experience preparing conceptual plans for a variety of purposes to better define the proposed elements of a project. If the City would like to provide high-level design and visualization of some of the proposed projects recommended in this Plan, Alta can work with the City PM to develop a scope for development of such. The Alta team will develop conceptual plans using AutoCAD to further the design for specific facilities within the recommended network. These concept designs may be used in the City's capital budget process or future grant applications.

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