Task 1: Existing Conditions Analysis & Inventory

Task 1.1 – Project Kick-off meeting

Contractor (TJKM) will schedule a virtual kick-off meeting within the first month of the contract; including preparation of meeting agenda, sign-in sheets, handouts and a brief PowerPoint presentation. The following list will be the topic(s) of discussion:

- Project goals and objectives
- Detailed scope of work and anticipated schedule
- Synchronizing the project timelines and identifying key milestones
- Preliminary traffic analysis zones
- Key study intersections (up to 30) and roadway segments (up to 30)
- Critical data needs (including existing data and new data to be collected) and data sharing protocols
- Stakeholder Engagement Plan
- Internal Meeting Schedule, invoicing, and progress update reporting
- Any other relevant information pertaining to the State Route 1 – Traffic Highway Capacity Study.

Task 1.2 – Assessment of Existing Policies, Programs and Data

TJKM will review, summarize, and synthesize the following existing documents to compile necessary contents and identify any potential deficiencies in information and data that may affect the analysis of the existing conditions and the creation of baseline conditions:

- SR 1 Traffic Capacity Analysis (2008 and earlier)
- 1994 Gualala Town Plan Traffic Study
- The County of Mendocino General Plan (2009 with 2020 & 2021 updates)
  - Including the 2021 Coastal Element
- Caltrans' Traffic Census programs for AADT's and AADTT's
- Caltrans' Highway Performance Monitoring System – Public Road Data (2021)
- Mendocino County's Local Road Safety Plan (2022)
- Fort Bragg's Coastal General Plan
- Point Arena's General Plan/Local Coastal Program
- Any additional sources identified in the project kick-off meeting.

Task 1.3 – Data Collection

For the purposes of this project, TJKM shall establish appropriate traffic analysis zones along SR 1 by utilizing any Caltrans reports and annual traffic volumes, route segment performance reports, truck traffic and road characteristics prepared for SR 1, SR 20 and SR 128 in addition to any County and/or local sources for other public roads providing access to SR1 and connecting with US Highway 101. For each zone, data will be compiled for major land use activities that generate local as well as recreational traffic. For the purposes of land use, TJKM will establish appropriate traffic analysis zones along SR1. TJKM will collect count data for up to 10 study intersections for AM and PM peak periods and five roadway segments (7-day, 24-hour counts). Raw data summaries and summary statistics developed under this task must be included in the existing conditions technical memorandum.

Task 1.4 – Existing Safety Review
Based on the study intersections and segments identified, TJKM will use the data, findings, and recommendations from the Mendocino County Local Road Safety Plan (LRSP) along with augmented safety data from other sources, to assess existing safety trends within the study area. Any recommendations noted in the LRSP's toolkit for specific areas will be noted and will be incorporated as much as possible.

Task 1.5 – Technical Memorandum for Existing Conditions
TJKM will summarize the content into a draft technical memorandum. The draft memorandum will be submitted to the County staff and project stakeholders for review and feedback during a virtual meeting at which TJKM will walk-through the draft memo contents and findings. TJKM will incorporate any feedback into the final technical memorandum.

Task 1 – Primary Deliverables:

- *Existing Conditions Analysis*
- *Draft Technical Memorandum for Existing Conditions*
- *Follow up meeting with County Staff and Stakeholders*
- *Final Technical Memorandum for Existing Conditions*

Task 2: Land Use Zone Development
Based off the location of study intersections and segments identified, existing travel demand models, and the General Plans for Mendocino County, TJKM will subdivide the study area into an appropriate number of traffic analysis zones (TAZs) within the Coastal Zone and in the surrounding boundary region to account for future development. These TAZs will be used to develop a model for the Coastal Zone. Each TAZ size and boundary will vary depending on topography road network, however, TJKM will ensure a minimum of 25 TAZs created to provide a better analysis, accurate land use, and demographic data for each zone. TJKM will produce a technical memorandum and use GIS-based mappings, charts, and other visualizations to illustrate the TAZ boundaries.

Task 2 – Primary Deliverables:

- *Creation of preliminary TAZ boundaries (minimum of 25)*
- *Exhibits illustrating TAZs*
- *Traffic Analysis Zones and Potential Development Memorandum*

Task 3: Model Development
TJKM will develop a travel demand model, using simple graphics as explanation, for the Coastal region of Mendocino County. The model will be a three-step model consisting of Trip Generation, Trip Distribution, and Trip Assignment. TJKM will update land use in the Coastal region traffic analysis zones to reflect a new base year using Census and General Plan data. The roadway network in the model will also be updated to reflect current year conditions.

The key steps shall be:

Land Use and Demographic Data: Depending on the data available within the census and other public databases, TJKM will develop a land use database. Key attributes in the database will include population, employment and their proxy variables.

Networks: The network input file will include SR 1 in the coastal region along with detailed roadway networks for the urbanized areas of Point Arena, Elk, Mendocino and Fort Bragg.

Travel Model: The updated Coastal Region model will have the ability to generate daily and peak hour traffic conditions on the various roadways in the model network and forecast various trip types. A turning movement module will be written for the trip assignment script to provide turning movement volumes at specified intersections. This module will include:

- **Trip Generation-** calculation of the total number of trips generated and attracted to traffic analysis zones.
- **Trip Distribution-** which will distribute trips from a production zone (mostly residential) to an attraction zone (business district).
- **Trip Assignment-** conversion of person trips into vehicle trips based on vehicle occupancy and trips assigned to roadways based on an equilibrium algorithm.

The updated model should be fully calibrated using updated travel survey data, 2020 Census/ACS data and other available resources. The model should be validated against all available traffic counts and meet the requirements of the California Transportation Commission RTP and Federal air quality conformity regulations.

Traffic Forecasts: Using maps and tables showing traffic changes, forecasts for future years will be developed using the validated base year model as a starting point and be developed for a specified number of forecasted years.

Task 3 – Primary Deliverables:

- *Travel Demand Model Technical Memorandum*
- *Validation and Calibration report for the updated Coastal Region Model*
- *User guide for Travel Demand Model*

Task 4: Land Use Forecasts

TJKM shall calculate growth rates for the Coastal Region using census data and general plan land use inputs. In addition, the MCOG model land use files will be obtained, and growth rates compared to the census and /or American Communities Survey to create new 2025, 2030, and 2035 land use files for the Coastal region model.

Task 4 – Primary Deliverables:

- *TAZ forecasts for 2025, 2030, and 2035*
- *Land Use Forecast Methodology Technical Memorandum*

Task 5: Traffic Forecasts

Task 5.1 – Traffic Forecasting

Using the model developed and land use forecasts, TJKM will generate traffic forecasts volumes at study intersections and roadway segments and average vehicle miles traveled by TAZ for 2025, 2030, and 2035.

Task 5.2 – Existing & Future Capacity Analyses
TJKM will use the existing and forecasted volumes for the "summer peak" conditions to conduct intersection and segment level of service (LOS) capacity analyses. "Summer peak" volumes will be used in the capacity analysis as to present worse-case conditions to identify roadway decisions, develop alternatives, and develop improvement strategies.

Task 5.3 – Documentation
TJKM will summarize content into a draft technical memorandum that will be presented during a virtual meeting with County staff and project stakeholders for review and feedback. TJKM will incorporate any feedback received into a final technical memorandum.

Task 5 – Primary Deliverables:

- *Draft Technical Memorandum for Traffic Forecasting, VMT, and Capacity Analysis*
- *Meeting to gather County staff and Stakeholders feedback*
- *Final Technical Memorandum for Traffic forecasting, VMT, and Capacity Analysis*

Task 6: Problem/Issue Identification
Based off the analysis conducted in Task 5, TJKM will identify network deficiencies at key intersections and segments for each year forecasted in a technical memorandum that includes a simplified matrix/table illustrating if deficiencies occur, when deficiencies start occurring, and if those deficiencies worsen over time.

Task 6 – Primary Deliverables:

- *Identification of deficient conditions at study intersections and segments*
- *Summary matrix*
- *Problem/Issue identification technical memorandum*

Task 7: Development & Analysis of Alternatives
TJKM will develop alternatives to address roadway capacity problems. Alternatives developed will solve or mitigate forecasted traffic congestion issues and identify alternative traffic mitigation fee strategies. Additionally, Level of Service conditions and Vehicle Miles Travelled (VMT) will be determined under the land use alternatives for the segment study area and study intersections for two peak conditions (annual & summer). TJKM will identify the number of deficient segments and intersections under each of the land use alternatives.

Task 7 – Primary Deliverables:

- *Levels of Service Report and VMT report*

Task 8: Mitigation Measure Development and Recommendations

TJKM will determine preliminary mitigation/improvement strategies to negate and/or lesson forecasted congestion issues at the study intersections and along the segments, focusing first on low-cost improvement strategies and incorporating Mendocino County's LSRP. A recommended mitigation strategy by alternative and summary of identified study intersections and roadway segments preliminary mitigation/improvement strategies shall be provided in a technical memorandum that includes detailed tables and illustrations.

Task 8 – Primary Deliverables:

- *Development of mitigation / improvement strategies*
- *Recommended Improvement Technical Memorandum*

Task 9: Recommendations

TJKM will provide recommendations I the following categories:

- Land Use
- Capital projects to improve capacity on route segments and at intersections
- Traffic demand management strategies, and traffic mitigation fee alternatives

Task 9 – Primary Deliverables:

- *The results will be incorporated into the draft and final reports*

Task 10: Draft & Final Reports

TJKM will provide a Comprehensive Draft SR 1 Corridor Study Report. The report will contain, at minimum, the following sections:

- Introduction, vision, goals, and objectives
- Existing Conditions Analysis
    - Details on the review of existing policies, programs, and data
    - Review of collected data
    - Review of existing safety conditions
- Development of TAZs and potential developments
- Development of a Coastal model
- Land use and traffic forecasts for 2025, 2030, and 2035
- Existing and future capacity analysis results
- Problem and issue identification results
- Development and analysis of alternatives
- Mitigation Measure Development
- Selection of recommended mitigations
- Suggestions for future studies and considerations

Upon review and feedback by County, TJKM will create a technical report to be presented during a virtual meeting with County and Stakeholders. During the virtual meeting, TJKM will walk County and Stakeholders through the draft contents and findings and gather any additional feedback to be included in the final technical report.

Task 10 – Primary Deliverables:

- *Preliminary final report*
- *Draft final report*
- *Stakeholders meeting for feedback and comments*
- *Final Report*

Task 11: Meetings

TJKM shall maintain close and in regular communication with County staff and stakeholders, via in-person or virtual meetings, conference calls, and/or emails. TJKM will attend, as requested by County, or included in Tasks, any Stakeholders, Board of Supervisors, City Council, and Planning Commission meetings to support findings and recommendations.

Task 11.1 – Milestone Meetings

TJKM will facilitate and/or present at the following meetings:

- Kick-off meeting
- 3 Review meetings
- Planning Commission meeting
- Board of Supervisors meeting

Task 11.2 – Periodic Meetings

TJKM will host, prepare agendas, presentations, action items, meeting minutes etc., monthly progress meetings with County, virtually, for 6 months, and one hour per meeting. Meeting subjects will include, but not limited to, issues, deliverables, status, products, invoicing items, and any problems encountered that may affect project schedules or budgets.

Task 11 – Primary Deliverables:

- *Periodic update meetings*
- *Planning Commission Meeting Attendance*
- *Board of Supervisors Meeting Attendance*
- *Meeting Materials (Presentations, documentation, agendas, notes, etc.)*

[END OF DEFINITION OF SERVICES]