1. PROJECT PURPOSE AND INTENT

The City of Sunland Park (City) seeks professional transportation engineering services to prepare a comprehensive, regional Traffic Impact Analysis (TIA) for the transportation network serving the Sunland Park, New Mexico and west El Paso, Texas border area. The study shall evaluate existing conditions, near-term conditions, a 20-year planning horizon, and full build-out conditions, and shall identify operational, safety, access-management, geometric, multimodal, and circulation improvements necessary to provide a safe and efficient regional transportation system.

The study shall be prepared in accordance with the New Mexico Department of Transportation (NMDOT) State Access Management Manual (SAMM), 18.31.6 NMAC, applicable NMDOT traffic engineering requirements, the current Highway Capacity Manual (HCM), the current Manual on Uniform Traffic Control Devices (MUTCD), applicable AASHTO guidance, and accepted professional traffic engineering practice. The Consultant shall coordinate the study methodology and analysis assumptions with the City of Sunland Park, NMDOT District One, the El Paso Metropolitan Planning Organization (EPMPO), and, as appropriate, the City of El Paso and TxDOT.

Consistent with 18.31.6.15 and 18.31.6.16 NMAC, the work shall provide a comprehensive assessment of short- and long-term transportation impacts, study-area intersection performance, access conditions, safety concerns, and mitigation. The final report shall be signed and sealed by a Professional Engineer registered in the State of New Mexico and Texas.

2. BACKGROUND AND BASIS OF STUDY

The study area is influenced by development and transportation projects on both sides of the New Mexico-Texas state line. The City of El Paso's January 24, 2024 Frontera Road Community Meeting materials evaluated a 2033 full build-out condition associated with planned development and identified operational treatments intended to manage traffic in the Frontera Road area. The Consultant shall independently evaluate the assumptions, traffic redistribution, regional consequences, and effectiveness of those improvements rather than simply adopting the prior study conclusions.

At a minimum, the City of El Paso improvements to be tested shall include:

- Three emergency access gates identified in the Frontera Road/Girl Scout Lane area;
- A diagonal diverter on Frontera Road, including the circulation changes created by restricting or redirecting through movements;
- A recommended right-turn bay on Frontera Road at Doniphan Drive;
- Signalization of Sunland Park Drive at Futurity Drive and the future southbound right-turn bay identified for the prior 2033 condition;
- Lane-assignment revisions, a right-turn bay, additional left-turn capacity, signal optimization, and signal re-phasing at Doniphan Drive/Sunland Park Drive; and
- Any additional related improvements, closures, access controls, or traffic-management measures that are existing, committed, funded, or reasonably foreseeable at the time of the study.

The prior presentation reported that the Frontera Road/Doniphan Drive intersection could operate at LOS F in the 2033 full build-out condition without treatments and identified LOS C

with treatments; it also identified the need for regional coordination with Sunland Park, the MPO, and other partners. These prior findings shall be treated as background information to be validated through current data and independent analysis.

3. GOVERNING STANDARDS AND TECHNICAL REFERENCES

The Consultant shall use the latest applicable editions available at Notice to Proceed, including, but not limited to:

- NMDOT State Access Management Manual (SAM/SAMM) and 18.31.6 NMAC, including traffic engineering evaluation and traffic study requirements for land development;
- NMDOT design standards, standard drawings, traffic engineering policies, and applicable District One requirements;
- Highway Capacity Manual (HCM) and compatible analysis procedures/software accepted by NMDOT;
- Manual on Uniform Traffic Control Devices (MUTCD), including signal warrant, signing, marking, pedestrian, bicycle, and traffic-control criteria;
- AASHTO Policy on Geometric Design of Highways and Streets and other applicable AASHTO guidance;
- Current Institute of Transportation Engineers (ITE) Trip Generation Manual and Trip Generation Handbook, where project-specific trip generation is required;
- EPMPO Regional Mobility Strategy (RMS) Travel Demand Model, its current socioeconomic data, roadway network, model documentation, and current adopted MTP/TIP assumptions;
- Applicable City of Sunland Park, City of El Paso, TxDOT, Doña Ana County, and regional transportation plans and standards.

4. STUDY AREA

The Consultant shall establish a regional study area sufficient to capture traffic diversion, route choice, queuing, and network effects caused by development, the Frontera Road circulation changes, and proposed improvements. At a minimum, the following seven intersections shall be included in all applicable existing and future operational analyses:

- Frontera Road / Doniphan Drive
- Sunland Park Drive / Doniphan Drive
- Sunland Park Drive / Futurity Drive
- Futurity Drive / Racetrack Drive
- Racetrack Drive / Doniphan Drive
- Sunland Park Drive / McNutt Drive
- Racetrack Drive / McNutt Drive

The Consultant shall also evaluate the Frontera Road, San Gabriel Drive, and Futurity Drive corridors, including connecting local streets and access points necessary to understand circulation and safety. The study limits may be expanded, with City approval, when field observations, model results, traffic diversion, or safety analysis demonstrate that additional intersections or roadway segments are materially affected.

5. TASK 1 - PROJECT MANAGEMENT, SCOPING, AND AGENCY COORDINATION

- Conduct a project kickoff meeting with the City to confirm goals, known projects, development assumptions, data availability, schedule, and decision points.
- Prepare a formal TIA scoping memorandum identifying the study area, intersections, count locations, analysis periods, design years, modeling methodology, performance measures, software, safety methodology, and proposed scenario matrix.
- Coordinate the scope with NMDOT District One before substantive analysis is finalized. Document NMDOT comments and incorporate agreed requirements.
- Coordinate with EPMPO regarding the current RMS Travel Demand Model, model year(s), socioeconomic forecasts, network coding, model extraction, and any project-specific model runs or subarea outputs required for the 20-year horizon and full build-out scenarios.
- Coordinate with the City of El Paso and/or TxDOT as needed to confirm the status, geometry, operating assumptions, implementation timing, and limits of the Frontera-area improvements.
- Hold progress meetings at approximately monthly intervals and maintain an action-item/decision log.
- Immediately notify the City of material data gaps, unexpected safety issues, model limitations, or scope changes that could affect the six-month completion requirement.

6. TASK 2 - DATA COLLECTION AND EXISTING CONDITIONS

The Consultant shall collect and document sufficient current data to establish a defensible existing-condition baseline.

- 24-hour weekday roadway volume counts on Frontera Road, San Gabriel Drive, Futurity Drive, Sunland Park Drive, Racetrack Drive, Doniphan Drive, and McNutt Drive at locations necessary to establish corridor demand and directional distribution.
- Turning-movement counts at each study intersection for the weekday AM and PM peak periods. Counts shall include, at a minimum, vehicles by movement, heavy vehicles, pedestrians, and bicycles. Additional school, event, weekend, or special peak periods shall be collected if field reconnaissance or stakeholder coordination indicates that they materially affect operations.
- Queue observations, lane utilization, right-turn-on-red activity, bus/transit activity, parking influence near intersections, pedestrian crossing activity, bicycle activity, and other operational field observations needed for HCM/NMDOT analysis.
- Existing signal timing, phasing, cycle length, splits, offsets, detection, pedestrian timing, and controller information for signalized study intersections, to the extent available.
- Roadway geometry inventory including number and width of lanes, turn lanes, storage and taper lengths, medians, shoulders, curb and gutter, sidewalks, shared-use facilities, bicycle facilities, driveways/access points, posted speeds, lighting, signing, pavement markings, roadside constraints, and available right-of-way information.
- Field verification of sight-distance constraints and access spacing where relevant to recommended improvements.

- Compilation of available historical traffic counts, prior traffic studies, development plans, roadway plans, and programmed projects from the City, NMDOT, EPMPO, City of El Paso, TxDOT, and other relevant agencies.
- Obtain the most recent available crash data for a minimum five-year period, or the longest practical recent period accepted by the agencies, for the study intersections and Frontera, San Gabriel, Futurity, Sunland Park Drive, Racetrack Drive, Doniphan, and McNutt study segments.

7. TASK 3 - EPMPO TRAVEL DEMAND MODEL AND REGIONAL FORECASTING

The regional forecasting component is a mandatory element of this scope. The Consultant shall employ the current EPMPO Regional Mobility Strategy (RMS) Travel Demand Model, which covers El Paso County and portions of Doña Ana and Otero Counties, to establish regional traffic growth, route choice, and network effects. The model shall not be used as a substitute for intersection-level traffic counts or operational analysis; rather, it shall provide the regional forecasting framework.

- Obtain the current EPMPO model network, socioeconomic data, model documentation, and available model years. At the time of scope preparation, EPMPO identifies a 2017 calibrated base and forecast/interim datasets including 2022, 2032, 2040, and 2050; the Consultant shall confirm the current official model at Notice to Proceed.
- Establish a 20-year horizon year measured from the study base year. If the study base year is 2026, the nominal 20-year horizon is 2046. Because the regional model may not contain a native 2046 year, develop the 20-year forecast using an EPMPO-approved method, such as interpolation between 2040 and 2050 outputs, a project-specific model run, or another method accepted by EPMPO and the City.
- Develop a separate Full Build-Out scenario representing the reasonably foreseeable ultimate development of the study influence area, including known approved, planned, and reasonably foreseeable development in Sunland Park and adjacent El Paso. Full build-out shall not be limited to the 2033 development assumptions in the 2024 presentation.
- Review and, where necessary, update transportation network coding to represent existing, committed, and scenario-specific roadway projects, access controls, intersection improvements, and circulation changes. Consider two proposed network adjustments; (1) extension of Appaloosa Drive to Frontera Road, and (2) extension of Frontera Road over the Rio Grande unto McNutt (NM 273).
- Extract and document model link volumes, turning/approach demand where available, select-link or path information where useful, volume-to-capacity relationships, and traffic redistribution patterns relevant to the study area.
- Develop peak-hour intersection forecasts using a documented methodology that reconciles current turning-movement counts with regional model growth. The method shall avoid simple unvalidated application of uniform growth rates where model results indicate materially different route or land-use effects.
- Perform reasonableness checks comparing model base-year volumes to observed traffic and document any adjustment, post-processing, or calibration used for the subarea.

- Prepare clear exhibits illustrating future traffic demand, traffic diversion, and changes in route choice under the alternative scenarios.

8. TASK 4 - LAND USE, DEVELOPMENT, AND TRIP FORECASTS

- Inventory approved, planned, and reasonably foreseeable residential, commercial, industrial, institutional, recreational, and major public projects within the study influence area.
- Coordinate with the City to identify development phasing and ultimate build-out assumptions.
- For developments not adequately represented in the EPMPO socioeconomic dataset, estimate trips using current ITE methods or locally validated rates, document pass-by/diverted/link trips where applicable, and incorporate the resulting demand into the study network without double counting.
- Evaluate the relationship between land-use assumptions in the City of El Paso 2024 Frontera presentation and current development entitlements/conditions.
- Document all trip-generation, distribution, assignment, growth, and model reconciliation assumptions in tables and figures.

9. TASK 5 - REQUIRED ANALYSIS SCENARIOS

At a minimum, the Consultant shall analyze the following scenarios for the weekday AM and PM peak hours. Additional scenarios may be required based on NMDOT/EPMPO scoping or project phasing.

Scenario	**Horizon**	**City of El Paso Improvements**	**Purpose**
A	Existing	Existing/installed only	Establish observed baseline and validate models.
B	Near-Term / Opening or Interim	Without proposed package	Identify near-term deficiencies absent the proposed El Paso treatments.
C	Near-Term / Opening or Interim	With proposed/committed package	Measure near-term redistribution and effectiveness of improvements.
D	20-Year Horizon	Without proposed package	Evaluate regional demand and deficiencies over the 20-year planning horizon.

E	20-Year Horizon	With proposed package	Evaluate long-term effectiveness and cross-border traffic redistribution.
F	Full Build-Out	Without proposed package	Identify ultimate system needs without the proposed El Paso package.
G	Full Build-Out	With proposed package	Test ultimate conditions with the proposed El Paso package.
H	Full Build-Out	Recommended Regional Improvements	Demonstrate performance of the Consultant's recommended mitigation program.

The 'with improvements' scenarios shall explicitly model the access restrictions and circulation consequences of the Frontera Road diagonal diverter and emergency gates, not merely geometric capacity changes. The Consultant shall identify where traffic is diverted, the magnitude of redistributed traffic, and whether the improvements transfer operational or safety impacts to San Gabriel Drive, Futurity Drive, Sunland Park Drive, Racetrack Drive, Doniphan Drive, McNutt Drive, neighborhood streets, schools, emergency response routes, or other facilities.

10. TASK 6 - INTERSECTION AND CORRIDOR OPERATIONS ANALYSIS

- Perform HCM-based capacity and level-of-service analysis for all study intersections for each applicable scenario.
- Report intersection and critical movement/lane-group delay, LOS, volume-to-capacity ratio, queue lengths (including 50th and 95th percentile where supported by the selected software), and other relevant measures of effectiveness.
- Evaluate queue spillback, storage adequacy, turn-lane blockage, upstream/downstream interaction, and progression/coordination where intersections operate as a system.
- For congested conditions where conventional HCM procedures do not adequately represent oversaturated queues or network interaction, use an appropriate supplemental deterministic or microsimulation analysis, subject to City/NMDOT concurrence.
- Evaluate signal timing and phasing optimization, coordinated signal operations, turn restrictions, lane assignments, auxiliary lanes, intersection control alternatives, and other operational strategies.
- Evaluate traffic signal warrants where new signalization is recommended or where existing/proposed control warrants confirmation.

- Evaluate access management, driveway spacing, corner clearance, median openings, and auxiliary-lane needs consistent with NMDOT SAM requirements where state highway access is affected.
- Identify locations where forecast queues exceed available storage or create safety/operational conflicts and develop mitigation.

11. TASK 7 - SAFETY ANALYSIS

- Prepare a study-area crash summary by location, severity, collision type, contributing factor where available, and temporal pattern.
- Calculate crash rates and identify overrepresented crash types or locations using appropriate exposure measures and available statewide/local comparison information.
- Prepare collision diagrams or equivalent summaries for priority intersections and corridor hot spots.
- Review pedestrian, bicycle, school-route, transit, heavy-vehicle, and emergency-response safety conditions.
- Evaluate whether the Frontera Road diverter, emergency gates, or other circulation restrictions create new conflict points, emergency access concerns, neighborhood cut-through traffic, or traffic concentration on streets not geometrically suited for the forecast demand.
- Identify near-term low-cost safety measures and longer-term capital improvements. Recommendations shall distinguish documented crash-pattern countermeasures from operational improvements intended primarily to address future demand.

12. TASK 8 - GEOMETRIC AND MULTIMODAL IMPROVEMENT EVALUATION

The Consultant shall prepare a corridor-level geometric and safety assessment for Frontera Road, San Gabriel Drive, and Futurity Drive, together with intersection-specific concepts at the seven required study intersections.

- Assess roadway cross section, lane width, shoulders, curb and gutter, median needs, turn lanes, storage, tapers, intersection skew, turning radii, sight distance, access spacing, driveway consolidation opportunities, and roadside constraints.
- Evaluate pedestrian connectivity, ADA accessibility, crossings, sidewalk gaps, school access, bicycle accommodation, transit access, and lighting needs.
- Evaluate whether roadway widening, turn lanes, medians, access management, signalization, roundabout or alternative intersection control, channelization, signing/striping, traffic calming, or other geometric measures are warranted.
- For Frontera Road, specifically evaluate the diagonal diverter configuration, emergency access provisions, signing/marking/lighting, turning paths, and effects at the Texas-New Mexico interface.
- For San Gabriel Drive, evaluate the roadway's ability to safely accommodate traffic diverted from Frontera Road, including residential access, pedestrian activity, roadway width, intersection control, and traffic-calming/safety needs.

- For Futurity Drive, evaluate existing and future roadway capacity, pavement/roadway cross-section needs, multimodal accommodations, access management, intersection control, and continuity between Sunland Park Drive and Racetrack Drive.
- Develop planning-level concept exhibits for recommended improvements sufficient to communicate lane configuration, control, major geometric elements, approximate right-of-way implications, and project limits.
- Prepare planning-level opinions of probable construction cost for major recommended improvements, with appropriate contingencies and identification of major assumptions.

13. TASK 9 - REGIONAL MITIGATION, IMPLEMENTATION, AND FUNDING STRATEGY

- Develop an integrated mitigation plan addressing deficiencies identified in the existing, near-term, 20-year, and full build-out scenarios.
- Prioritize improvements as Immediate/Operational, Short-Term, Mid-Term, and Long-Term/Build-Out.
- Identify logical project packages and dependencies, including improvements that must be implemented together to avoid transferring congestion or safety problems elsewhere in the network.
- Identify jurisdictional responsibility for each recommended improvement to the extent practicable (City of Sunland Park, NMDOT, City of El Paso, TxDOT, private development, or shared/regional responsibility).
- Identify potential local, state, federal, MPO, developer/fair-share, or multi-jurisdictional funding strategies. Where appropriate, identify improvements suitable for inclusion or amendment in the EPMPO MTP/TIP or other capital programs.
- Where development impacts can be reasonably quantified, provide information supporting future fair-share discussions consistent with NMDOT access-management requirements, while recognizing that final cost allocation is subject to agency and developer negotiation.
- Provide a recommended monitoring program identifying traffic-count, crash, or development thresholds that should trigger re-evaluation or implementation of later-phase improvements.

14. TASK 10 - QUALITY CONTROL AND INDEPENDENT TECHNICAL REVIEW

- The Consultant shall maintain a documented internal quality assurance/quality control process.
- Traffic counts, model forecasts, intersection inputs, signal timings, scenario assumptions, calculations, and recommendations shall receive independent technical review by a qualified transportation engineer not serving as the primary analyst.
- All material assumptions shall be traceable in the report or technical appendices.
- Electronic analysis files shall be organized so the City or reviewing agencies can reproduce the principal results.

15. DELIVERABLES

The Consultant shall provide, at a minimum, the following deliverables:

Deliverable	**Minimum Content**
1. Project Work Plan and Data Request	Within two weeks of Notice to Proceed; includes detailed schedule, agency/data needs, and meeting plan.
2. TIA Scoping Memorandum	Study limits, intersections, count plan, model approach, horizon years, full build-out assumptions, scenario matrix, software, and performance measures; revised after agency comments.
3. Existing Conditions / Data Technical Memorandum	Traffic data, roadway inventory, existing operations, crash/safety summary, and data exhibits.
4. Travel Demand Model / Forecasting Technical Memorandum	EPMPO model documentation, model years, 20-year methodology, full build-out assumptions, network coding, validation/reasonableness checks, and forecast volumes.
5. Alternatives and Mitigation Technical Memorandum	With/without City of El Paso improvement results, traffic redistribution, safety/geometric findings, recommended concepts, planning-level costs, and implementation priorities.
6. Draft Traffic Impact Study Report	Complete draft report with appendices and all findings/recommendations for City and agency review.
7. Final Signed and Sealed Traffic Impact Study Report	Final report incorporating agreed review comments, signed and sealed by a New Mexico-registered Professional Engineer.
8. Electronic Project Files	Editable report files; PDFs; traffic-count data; spreadsheets; GIS/CAD exhibits as available; HCM/capacity analysis files; signal data; model outputs/post-processing files; cost-estimate worksheets; and other technical files used to support the study.

9. Executive Presentation	A concise presentation to City leadership/Governing Body and/or agency partners summarizing findings, with/without improvement comparisons, recommended projects, costs, priorities, and next steps.

16. FINAL REPORT MINIMUM CONTENT

- Executive Summary;
- Purpose, background, study limits, and agency coordination;
- Applicable NMDOT SAM/NMAC requirements and study methodology;
- Existing roadway, land use, traffic, multimodal, and safety conditions;
- Traffic data collection and existing operations;
- EPMPO Travel Demand Model methodology, assumptions, validation, and regional forecasts;
- Development assumptions, trip generation/distribution/assignment where applicable;
- Existing, near-term, 20-year, and full build-out traffic forecasts;
- Scenario-by-scenario operational results for all required intersections;
- Explicit with/without City of El Paso improvement comparison;
- Traffic diversion and neighborhood/corridor redistribution analysis;
- Safety analysis and crash findings;
- Frontera Road, San Gabriel Drive, and Futurity Drive geometric/safety evaluation;
- Intersection and corridor improvement concepts;
- Recommended mitigation, prioritization, implementation strategy, and planning-level costs;
- Conclusions and clear action-oriented recommendations;
- Appendices containing count data, model documentation, analysis reports, signal warrants where applicable, crash summaries, agency correspondence, concept exhibits, and supporting calculations.

17. SIX-MONTH PROJECT SCHEDULE

All services, including the final signed and sealed report, shall be completed within six (6) months of Notice to Proceed. The Consultant shall manage agency coordination and interim reviews so that the final completion date is maintained.

Period	**Milestone / Activity**
Month 1	Kickoff; records/data collection; field reconnaissance; NMDOT/EPMPO/El Paso coordination; traffic count program; draft scoping memorandum.

Month 2	Complete counts and existing-condition inventory; crash data review; existing operations; obtain/confirm EPMPO model and development assumptions.
Month 3	Regional model work; 20-year and full build-out forecasts; existing and future network coding; preliminary with/without scenario analysis.
Month 4	Complete operational, safety, diversion, access-management, and geometric analyses; develop mitigation alternatives and concept improvements.
Month 5	Submit alternatives/mitigation memorandum and Draft TIS; City/agency review; presentation of preliminary findings.
Month 6	Resolve comments; finalize recommendations, costs, implementation strategy, appendices, and electronic files; submit Final Signed and Sealed TIS.

18. CONSULTANT QUALIFICATIONS AND PROFESSIONAL RESPONSIBILITY

- The Project Manager shall be a Professional Engineer with demonstrated traffic engineering and regional transportation planning experience.
- The final TIA shall be signed and sealed by a Professional Engineer registered in the State of New Mexico and Texas.
- Personnel performing travel demand modeling shall demonstrate experience with EPMPO/RMS or comparable TransCAD regional travel demand models and subarea forecasting.
- The Consultant shall provide qualified traffic operations, safety, roadway/geometric, GIS/modeling, and cost-estimating personnel appropriate to the work.
- The Consultant remains responsible for professional judgment, accuracy, and completeness of the study and shall not rely on prior studies without verification.

19. CITY-FURNISHED INFORMATION / CONSULTANT RESPONSIBILITIES

The City will make available information in its possession that may assist the study, including relevant development information, prior studies, roadway plans, and known capital projects. The Consultant shall independently verify information necessary for professional conclusions and shall obtain additional agency data required to complete the work.

The January 24, 2024 City of El Paso Frontera Road Community Meeting presentation shall be considered a reference document. Its identified treatments and 2033 analysis are to be evaluated as prior planning assumptions, not accepted as predetermined conclusions.

20. ACCEPTANCE CRITERIA

The work will be considered complete when:

- The required study intersections and corridors have been evaluated for all applicable scenarios;
- The 20-year horizon and full build-out forecasts are supported by the EPMPO Travel Demand Model and documented forecasting methodology;
- The report explicitly compares conditions with and without the City of El Paso Frontera-area improvements;
- Operational, safety, access-management, geometric, and multimodal deficiencies are clearly identified;
- Recommended improvements are technically supported, prioritized, and accompanied by planning-level costs and implementation considerations;
- Review comments from the City and applicable agencies have been addressed to the City's satisfaction; and
- The City receives the final signed and sealed report and complete electronic technical files within six months of Notice to Proceed.