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MEMORANDUM OF UNDERSTANDING BETWEEN SAN DIEGO ASSOCIATION OF GOVERNMENTS, THE CITY OF CHULA VISTA, AND THE METROPOLITAN TRANSIT SYSTEM REGARDING RAPID TRAFFIC SYSTEMS OPERATIONS

This Memorandum of Understanding ("MOU") is made and entered into effective as of this ____ day of _____, _____, by and between the San Diego Association of Governments ("SANDAG"), the City of Chula Vista ("City"), and the Metropolitan Transit System ("MTS") for the purpose of developing consensus between said agencies on the operations of the Traffic Signals , Transit Signal Priority (TSP), and One-Lane Guideway (OLG) systems for the South Bay *Rapid* Project (hereinafter referred to as the "Project").

RECITALS

WHEREAS, SANDAG is responsible for the administration of the local transportation sales tax program in San Diego County as set forth in the *TransNet* Extension Ordinance and Expenditure Plan (TransNet); and

WHEREAS, SANDAG is responsible for constructing transit projects funded by the revenues from *TransNet*, including the Project; and

WHEREAS, the Project includes multiple capital improvements within the City, including traffic signal systems, the *Rapid* Dedicated Guideway, in line Transit Stations, TSP systems and the OLG bridge over SR 125; and

WHEREAS, these capital improvements and the underlying systems are necessary to improve transit system performance by ensuring the *Rapid route* service is safe, convenient, reliable, and efficient without impacting preemption functions for public safety; and

WHEREAS, the City operates and maintains the traffic signal systems and equipment within the jurisdiction which are needed for *Rapid* systems operations; and

WHEREAS, implementation, proper operation, and monitoring of TSP, traffic signals, and OLG operations is critical to meeting regional transportation goals; and

WHEREAS, MTS as the Project operator, will be responsible for bus operations on the *Rapid route*; and

WHEREAS, MTS will be responsible for maintenance checks and replacement for equipment located on the vehicle including those non-TSP elements which may impact proper TSP operations, as well as regular review and update of project schedules to support effective use of TSP, pursuant to Memorandum of Understanding between MTS and SANDAG, SANDAG Contract number _____; and

WHEREAS, City is responsible for traffic signal operations at TSP intersections. Intersection traffic signal control equipment, including the signal side GTT Opticom Priority Equipment, will be managed and operated by the City if it is otherwise responsible for that intersection. Full cost recovery to operate and manage traffic control equipment, including TSP elements, along the *Rapid* route shall be billed by the City to SANDAG on a quarterly basis or as mutually agreed upon by the Parties; and

WHEREAS, responsibilities related to bus operations and maintenance will be agreed to in a separate Memorandum of Understanding between MTS and SANDAG; and

WHEREAS, responsibilities related to the maintenance of the Capital Improvements along the *Rapid* dedicated guideway and in line transit stations will be agreed to in a separate Joint Use Maintenance Agreement (JUMA) between MTS, SANDAG and the City, and

WHEREAS, the Parties agree that monitoring and reporting is a critical component of the success of this Project, and

WHEREAS, the Parties of this MOU have defined the TSP requirements, made a determination on where TSP will be implemented, and mutually desire to specify the operation and monitoring responsibilities of the Parties in regard to the Project.

AGREEMENT

NOW THEREFORE, in consideration of the mutual promises set forth herein, the parties agree as follows:

DEFINITIONS

1. **Communications System** are systems for exchanging information including two-way radio systems for communications between dispatchers and vehicle operators, wireless and wired communications between field devices and management and monitoring systems, Automatic Vehicle Locator (AVL) systems, automated dispatching systems, vehicle guidance systems, telephones, facsimile machines and public address systems.

2. **Traffic Signal Controller** is the computer (usually located in an equipment cabinet near the signalized intersection) that controls the operations of the signal based on the signal timing parameters established for each location.

3. **Traffic Signal Phase** is a portion of the overall signalized intersection operation that defines the directions of travel (e.g. eastbound left turn, westbound left turn, etc.) and allowable time parameters (e.g. max green time, min green time, etc.) that can be controlled based on traffic and/or settings input by the City.

4. **Transit Signal Priority (TSP)** is an operational strategy that primarily facilitates the movement of transit vehicles (usually those in-service), either buses, through traffic signal controlled intersections. Objectives of TSP include improved schedule adherence and improved transit travel time consistency while minimizing impacts to normal traffic operations.

5. **Check-In** is used for TSP mixed flow, Dedicated Guideway, and One-Lane Guideway operations to determine a bus is approaching an intersection and to make a request (input) to the traffic signal controller. This initiates the logic that controls signal phasing and TSP functions.

6. **Check-Out** is used for Dedicated Guideway and One-Lane Guideway operations to determine a bus has cleared a particular location or intersection which then initiates additional logic or cancels certain TSP actions in the signal controller.

7. **Green Extension** occurs when the green light indication at a traffic signal is extended a short period of time in the direction of travel of the bus (established per intersection) to allow a bus more time to move through the intersection.

8. **Early Green** occurs when a bus arrives on a red light indication at a traffic signal and the appropriate signal phase is advanced to allow the bus to receive a green light sooner than it otherwise would allow.

9. **Phase Omit** occurs when other phases of the operation of the signalized intersection are allowed to be omitted for a temporary period to allow phases in the direction of travel of the bus to receive TSP.

10. **Active Transit Signal Priority System** means a system that allows the bus to request special transit priority at a particular traffic signal that processes whether or not the request can be granted given the status of the signal cycle and its configuration. An active TSP approach can be applied in both mixed flow traffic operations (where the bus travels in regular lanes of traffic) or in Dedicated Guideway operations.

11. **Emergency Pre-emption System** means the hardware and software comprising a system that provides for the altering of standard traffic signal timings and sequences to safely and efficiently accommodate approaching emergency vehicles in order to reduce response times.

12. ***Rapid* (formerly known as Bus Rapid Transit)** is a flexible, high performance transit mode that uses buses or special rubber tire-based vehicles operating on pavement, and that combines a variety of physical, operating and system elements into a permanently integrated system with a quality image and unique identity. TSP and Dedicated Guideway operations are intended to improve the quality of *Rapid*.

13. **Dedicated Guideway** (for the purposes of this project) is a dedicated "*Rapid* buses only" corridor within the median of East Palomar Street, from Oleander Avenue to Magdalena Avenue, and an independent corridor from Magdalena Avenue to Birch Road.

14. **Regional Transit Management System (RTMS)** is the widely deployed transit Automatic Vehicle Location (AVL) tracking, communications, and dispatching system used by Metropolitan Transit System (MTS). This system determines the status and schedule adherence of buses and supports TSP.

15. **Central Signal Management System (CSMS)** is a central signal management system deployed by the City to monitor and manage traffic signal operations. This system is capable of collecting data from and monitoring individual signals. The City may operate more than one CSMS,

however for purposes of this project the assumed CSMS is Transparity provided by McCain Traffic Supply.

16. **Central Management Software (CMS)** is a supporting system, sourced from Global Traffic Technologies (GTT), focused on emergency preemption and phase selector data management and monitoring. This system is an important tool in providing reports on the signal components related to TSP and Guideway activity.

17. **One-Lane Guideway (OLG) Control System (formerly known as One-Way Transit Control System)** is the system deployed to manage bus and potential emergency traffic across the Guideway bridge over SR 125. This system operates two traffic signals on either side of the bridge along the single lane of bus operations, and includes electronic signage, additional sensors, and access control gates.

18. **Automatic Vehicle Location (AVL)** is a system that senses or calculates, at intervals, the location of transit vehicles. Vehicle location can be used in various applications, including schedule adherence monitoring, operational control and incident management through computer-assisted dispatching, real-time customer information, transit signal priority, etc. Most transit AVL systems now use global positioning system (GPS) to determine vehicle location.

19. **Global Positioning System (GPS)** is a system that uses satellites to transmit signals that enable GPS receivers to determine vehicle location, speed, direction, and time of a vehicle.

20. **TSP Corridor** means a well-traveled transit corridor where TSP technology is available to specially equipped buses to allow communications between the transponder on a bus and the traffic signal.

21. **Priority Request** refers to the electronic message sent from the vehicle to the traffic signal equipment to request Early Green or Green Extension priority treatment.

22. **Phase Selector** is a specific piece of signal equipment which receives and processes Priority Requests and then determines if this request should be forwarded to the traffic controller for TSP action. The Phase Selector is an important component of the overall TSP system as it distinguishes between TSP and emergency preemption requests, and it logs details of the request made which are useful in monitoring.

23. **Division Director** in terms of this MOU will mean the Director of Mobility Management and Project Implementation for SANDAG and the Director of Engineering and Capital Project Department and/or Public Works Department for the City, or their duly-appointed designees.

24. ***Rapid* Route** in terms of this MOU will mean the entire segment of the South Bay *Rapid* route in the City of Chula Vista on local roads.

PROJECT DESCRIPTION

SANDAG is working in collaboration with the MTS, Caltrans, and the City to design and build the South Bay *Rapid* service as part of the voter approved TransNet program. When completed, South Bay *Rapid*

will be a 26-mile route from the Otay Mesa Port of Entry to Downtown San Diego via eastern Chula Vista, connecting to employment and activity centers in Downtown San Diego and South County. It will be the fourth *Rapid* transit project in the San Diego region. Three new *Rapid* lines along Interstate 15 (I-15) and in the Mid-City area of San Diego began service in 2014. Following the established MTS route number convention, the South Bay *Rapid* will be numbered Route 225.

The South Bay *Rapid* service will offer passengers high-quality transit that is frequent, reliable, and comfortable. The project will provide new upgraded vehicles, limited stops, enhanced stations with real-time vehicle arrival displays, Transit Signal Priority (TSP), signal progression, and a dedicated transit guideway to provide a more efficient and reliable *Rapid* transit service. Construction began in 2016 and a soft opening with limited service began in September 2018, with full implementation in 2019.
The portion of the South Bay *Rapid* route that is within the City of Chula Vista spans from Millennia to the East Palomar Street Park & Ride Transit Station (just east of I-805) via East Palomar Street.

There are three traffic operations systems that are critical to the efficient and safe operations of the South Bay *Rapid* services. TSP will be active at forty-two (42) traffic signal controlled intersections within the City of Chula Vista. Nine (9) of these will be at mixed flow intersections and thirty-three (33) of these will be Dedicated Guideway (and Station) intersections. TSP at mixed flow intersections will change the signal phase to provide an early green or green extension when a delayed bus is approaching to improve schedule adherence while minimizing impacts to normal traffic operations. At Dedicated Guideway intersections, the detection of buses primarily occurs from detector loops in the bus lanes of the Dedicated Guideway. TSP logic at Dedicated Guideway intersections is based on peer-to-peer logic where information on a bus activating traffic signal phases at one intersection can be passed to other downstream signalized intersections. This allows special TSP logic that can extend, shorten, or phase omit signal phases to benefit the bus. Additionally, the One-Lane Guideway (OLG) bridge connecting Otay Ranch Town Center and the Santa Venetia Station requires a control system which will manage bus traffic across the bridge, since two directional traffic will be using a one-way bridge, using traffic signals on either side of the bridge, electronic signage, sensors, and control gates.

SANDAG AGREES:

1. Management of *Rapid* Traffic Systems:

    a. SANDAG agrees to work with the City in a cooperative effort to develop and input configurations into the TSP intersections as part of the initial deployment.

    b. SANDAG agrees to provide the City with the configuration and backup software during preliminary and final acceptance of the OLG control system to support the City's monitoring and management of the OLG.

    c. SANDAG agrees to work with the City to determine the approach and timing to return the *Rapid* Dedicated Guideway or OLG to safe operations if the City determines in their judgement that it is unsafe to operate due to physical issues or signal operations.

2. Monitoring

    a. SANDAG, in cooperation with MTS, will be responsible for the overall monitoring of TSP, *Rapid* route, and OLG performance and operation and for notifying the City

when problems are identified, as well as management of ongoing funds and agreements.

b. SANDAG will produce quarterly reports to the City and MTS that summarizes the performance efficiency, problems, or issues related to the TSP, *Rapid* route and OLG. SANDAG will also be permitted read-only access or receive preconfigured reports to obtain data from the MTS Regional Transit Management System (RTMS) to review problem locations identified through the City data. SANDAG will identify any issues and provide the necessary information to the City on any problematic locations in support of meeting goals for the Project.

3. Performance Evaluation

a. To review and comment on service monitoring reports prepared by City in accordance with:

i. Criteria (to be developed in cooperation with City)

ii. Procedures (to be developed in cooperation with City)

iii. Scheduling (to be developed in cooperation with City)

b. To at least annually have a traffic engineer review and observe the traffic flow along the OLG and *Rapid* route, in conjunction with the City. This would include on-site reviews of the *Rapid* route to discuss any outstanding operations issues or concerns, public complaints, complaints from MTS regarding unusual or increasing delays, and development of an action list including suggested corrective action, follow-up review, timelines, responsibilities, and/or equipment needs.

4. Funding

a. SANDAG agrees to provide funds for ongoing TSP, Traffic Signal and OLG operations (including monitoring & reporting) to City, on a full cost recovery basis, to fulfill the City's requirements under this MOU.

b. SANDAG shall not be required to provide additional funding without written amendment to this MOU. SANDAG and the City will evaluate and review the fees within the formulas at the biannual meetings to determine any potential cost increases that may have occurred due to economic inflation, unanticipated signal timing modifications, staff hourly rate changes, vendor contract changes, etc.

c. All payments to City will be made by SANDAG on a quarterly basis or as mutually agreed upon for actual City costs incurred. City will submit an invoice for payment to SANDAG detailing all costs incurred by the City based on the cost breakdown.

CITY AGREES:

1. Management and Operations of *Rapid* Traffic Systems:

    a. The City agrees to operate equipment located along the Dedicated Guideway and at intersections along the *Rapid* route to support the operations of traffic signals and TSP functions (including non-TSP elements that may impact proper TSP operations such as communications system elements, detector loops, video detection, electric wiring, and cabinet and controller equipment), and the traffic signal controller for the OLG to support the access control functions.

    b. During regular operations and performance checks, the City will make reasonable efforts to ensure that appropriate and current controller, signal and TSP timing, software, and communications configurations are entered or maintained. This will include special timing plan, peer-to-peer logic, and configuration information for the OLG and *Rapid* route intersections. The City will make reasonable efforts to carry out the standard performance checklist as set forth in Exhibit B on a quarterly basis.

    c. The City will make reasonable efforts to maintain copies of the TSP configurations and *Rapid* route signal configurations in the controller cabinets where the intersection signal timing sheets are kept. These configurations will be jointly developed and input into the signalized intersection as part of the initial deployment in a cooperative effort between the City and SANDAG.

    d. The City will make reasonable efforts to maintain the software configurations and backup software for the OLG for easy electronic upload either remotely or in the field. SANDAG will provide the City with the configuration and backup software during preliminary and final acceptance of that system. The City will make reasonable efforts to coordinate with MTS and SANDAG on any changes to the OLG's software configurations in advance of implementation.

    e. City will make reasonable efforts to conduct follow-up operations checks and resolve functionality issues or failures under the following desired timelines:

        i. Once a TSP concern has been identified and reported to the City, the City will make reasonable efforts for follow-up operational checks within 5 working days. The City will be responsible for retaining spare equipment (e.g., traffic signal controllers, phase selectors, video detection cameras) sufficient to allow a repair within 5 working days of the City's initial response to the issue. The total quantity and types of spares necessary to meet this timeline will be determined by the City.

        ii. Once a functionality issue or failure has been reported to the City with a *Rapid* route traffic signal or the OLG Control System:

            1. The City will make reasonable efforts to provide an initial response within one (1) hour if it occurs during South Bay *Rapid* operating hours.

2. The City will make reasonable efforts to provide an initial response by one (1) hour before service begins if it occurs outside of South Bay *Rapid* operating hours.

3. The City will make reasonable efforts to notify MTS and SANDAG if resetting the System or traffic signal controller fails to resolve the issue within two (2) hours of the attempt to reset.

4. For minor equipment or software failures that can be resolved installing spare equipment by a City signal technician or maintenance crew, resolution (repair, software reload, equipment swap, and/or reset resolution), City will make reasonable efforts to ensure City's initial response to the issue will occur within 4 hours.

5. For major equipment or software failures that will require specialized equipment or outside contractors (e.g. need to replace a detector in pavement, physical damage to the facilities, etc.), the City will make reasonable efforts to restore full operations within 5 working days of the City's initial response to the issue.

6. If the City determines in their judgement that the Dedicated Guideway or OLG is unsafe to operate buses, they will make reasonable efforts to notify SANDAG within 24 hours of this determination and will notify MTS within one (1) hour to establish detours. The City will hold a meeting with SANDAG and MTS to determine the approach and timing to return the Dedicated Guideway or OLG to safe operations.

7. Once an issue has been resolved, the City will make reasonable efforts to notify MTS within two (2) hours and SANDAG within 24 hours.

8. If the City is unable to meet these timelines due to the extent of the damage or issue with the *Rapid* route signals and/or OLG, they will make reasonable efforts to notify MTS and SANDAG within 36 hours of the extent of the issue or damage and set a meeting to discuss options and temporary operations.

2. Monitoring

a. City will make reasonable efforts to provide SANDAG with the following data from the traffic signal equipment and systems through one of the options noted below:

i. Emergency Vehicle Preemption Report (low priority & high priority request) – This report should be provided at a minimum of monthly intervals for all TSP and *Rapid* route intersections in the Project. It details each TSP request received by the traffic signal controller by intersection, date, time, level of priority, etc. The report should be provided electronically in a format allowing further processing and comparison.

1. Alternate Reporting Mechanism: It is anticipated that reporting improvements will be made to Transparity that make this report available centrally through Transparity without the need for the City to "run" the reports and send the electronically to SANDAG. SANDAG agrees that this alternate reporting mechanism is acceptable in lieu of the process described above.

ii. Phase Selector or GTT Central Management Software (CMS) EVP Device Report (low priority/high priority) – TSP and *Rapid* route intersections also include data at the Phase Selector which keeps a log of all TSP and emergency vehicle preemption requests. This log is accessible by accessing the Phase Selector directly without interacting or interfering with the traffic signal controller in any way. This log is useful for more detailed analysis of TSP operations and effectiveness, particularly when compared with data from RTMS. It provides additional data not available through other reports on the specific duration of requests, cancellation of requests, and requests passed through to the traffic signal controller. Once the initial TSP implementation is in place and operational, this data is expected to be collected once every 3 months. For TSP enabled intersections, the City will either download this data from the Phase Selectors and provide the electronic files to SANDAG or provide appropriate access so that the logs may be downloaded.

1. Alternate Reporting Mechanism: It is anticipated that reporting improvements will be made to Transparity and/or GTT's CMS that will make this data available without the need to access individual intersection cabinets. Once such improvements are in place, the City can make these reports available to SANDAG either directly through electronic means or through a central reporting resource. SANDAG agrees that this alternate reporting mechanism is acceptable in lieu of the process described above.

iii. Phase Selector Opticom Equipment Diagnostics Report – For mixed flow TSP and *Rapid* route intersections, when collecting Phase Selector data or performing regular maintenance checks, the City will run the available Phase Selector diagnostic check. This check confirms that the priority request receivers, cabling, and phase selector are operating properly. This data can be downloaded either to field laptop from individual intersections. The City will make reasonable efforts to provide a summary of known or reported TSP equipment failures to SANDAG. This can be done by either providing the downloaded files or by creating a separate summary list.

iv. The OLG Control System generates specialized alarms and reports specific to the operation of the OLG. These reports will be contained in the Transparity system owned and operated by the City. The City will make reasonable efforts to provide monthly summaries of key reports (or alternatively provide remote access to the reports to SANDAG) from this system on the OLG operations to include:

1. Number of buses/vehicles using the OLG by direction

2. Maximum and average crossing times of the OLG as defined by first check-in and check-out of the OLG

3. Summaries of bus dwell times awaiting clearance to traverse the OLG

4. Summary of OLG alarms requiring reset of the system by day, time, and type as defined in the OLG system manual

b. There may be occasions when particular issues arise that are not consistent with the reporting schedule above. During these unplanned events, the City will make reasonable efforts to provide the above noted reports for the identified problem locations within ten working days' notice. Alternatively, the City may provide read-only access or oversight for SANDAG to download Phase Selector and/or traffic controller event log data and diagnostics reports by SANDAG.

3. Performance Evaluation

a. To maintain logs in the controller cabinets documenting the TSP, traffic signal, and OLG timing plan and configuration changes.

b. To maintain logs in the controller cabinets documenting TSP, traffic signal, and OLG maintenance efforts.

4. City will make reasonable efforts to maintain operational control of the intersections that are identified in this MOU and will collect data appropriate to monitoring TSP, *Rapid* route, and OLG performance per this MOU.

5. The system installed at each of the intersections to provide priority for transit vehicles also has the capability of providing emergency vehicle preemption. City may use the Emergency Pre-emption System capabilities. The Emergency Preemption settings and operations are the sole responsibility of the City. If Emergency Pre-emption System changes are made, the TSP settings and parameters will be maintained unless otherwise agreed by the Parties.

MTS AGREES:

1. Management of *Rapid* Route Systems:

a. MTS will be responsible for the maintenance checks and replacement of equipment located on vehicles (e.g. priority request transmitters) including those non-TSP elements that may impact proper TSP operations and TSP elements, as well as regular review and update of transit schedules, as appropriate, to support the most effective use of TSP.

b. MTS shall be responsible for the operation of the OLG bridge overcrossing at the SR-125 in its entirety except for the OLG's traffic signal controller, traffic signal cabinet,

any TSP systems, and software configurations which are the City's responsibility per this MOU.

c. MTS shall not, at any time, use or permit the public or any third party to use the Dedicated Guideway, SR-125 bridge overcrossing, and/or Stations in any manner that will interfere with or impair any of the City's municipal duties or operations or the use of the *Rapid* facilities as bus transit facilities.

2. Monitoring

a. MTS will perform TSP emitter checks on buses by using the test equipment available in the IAD yard. These checks will be performed as needed to keep the equipment in working condition.

b. For the OLG, MTS will monitor operations and interactions of buses/operators with the OLG system and report the following:

i. Apparent issues with the OLG system operations and/or related signal operations, including issues such as:

1. Broken or inoperable control gate arms (including location of gate arm)

2. Inoperable or seemingly problematic Dedicated Guideway traffic signal indications

3. Inoperable or damaged extinguishable message signs (indicating buses on the OLG)

4. Unusual delays at the OLG where buses do not appear to be travelling in the opposing direction to the reported delay

5. Situations (such as bus mechanical failure or safe operation issue) that prevent the continued operation of the OLG

ii. MTS will notify the City of such situations within one (1) hour of their being reported by an MTS operator or field supervisor and establish on-going two-way communications with the City as necessary until the situation is resolved or is no longer apparent.

iii. If the City indicates they have taken corrective action or repaired the outstanding situation, MTS will confirm with the City that OLG operations have returned to normal following buses crossing the OLG in both directions.

c. MTS will follow MTS safety and operational procedures should a potential safety issue be identified by MTS on the OLG or Dedicated Guideway that requires operations to be suspended or detours implemented. This may include contacting police, emergency services, and/or the City's Traffic Engineering Division.

d. MTS will log notifications received from the City regarding OLG and Dedicated Guideway operations and equipment failures.

e. MTS agrees to work with the City to determine the approach and timing to return the Dedicated Guideway or OLG to safe operations if the City determines in their judgement that it is unsafe to operate due to physical issues or signal operations.

THE PARTIES MUTUALLY AGREE:

1. The implementation, proper operation, management, and monitoring of TSP is critical to meeting regional transportation goals and the inclusion of *Rapid* route service objectives.

2. The Parties recognize the mutual benefits of improving transit system performance through TSP without significantly impacting traffic circulation or preemption functions for public safety.

3. The Parties recognize that the system components at the affected traffic intersections will support both TSP and emergency pre-emption functionality; however all settings, primary equipment, and supporting equipment for emergency pre-emption functionality is the exclusive responsibility of the entity that owns the intersection.

4. The Parties agree that TSP monitoring and reporting is a critical component of the success of this Project.

5. It is the intent of the Parties involved to work cooperatively to continue to improve regional traffic management and transit priority systems in the San Diego region.

6. The mutual benefits of improving transit system performance through TSP should be carried out without significantly impacting traffic circulation.

7. City will make reasonable efforts to maintain operational control of the intersections that are identified in this MOU and will collect data appropriate to monitoring TSP performance; and

    a. Any changes to signal timing parameters including TSP settings will only be implemented by the City.

    b. City may modify or change timing plans which do not affect TSP operations without prior review by SANDAG or MTS.

    c. For special events, construction, street maintenance or emergencies, City may modify timing plans without prior review of SANDAG or MTS. The TSP settings and parameters for the affected intersection(s) should be re-entered into the timing plans within three (3) days after the event.

    d. New and adjusted timing plans along the *Rapid* route, except OLG, intersections in Exhibit A which will impact TSP operations, will be submitted to all Parties for a 14-day review prior to implementation.

8. City reserves its right to use the Dedicated Guideway, SR-125 bridge overcrossing, and/or Stations within the City right-of-way for future construction, reconstruction, expansion, modification, or maintenance purposes without restriction or reimbursement to any party should MTS cease operation of the Dedicated Guideway and/or Stations for any reason, including but not limited to termination or expiration of this MOU.

9. SANDAG, MTS, and the City shall be responsible for management, use, and operation of their respective fiber optic cables and communications equipment along the *Rapid* route.

10. Additional TSP Corridors, intersections, guideway segments, and/or OLG components may be added to this MOU by mutual written agreement of the Parties and by updating Exhibit A in this MOU. Prior to the implementation of the new component, the Party proposing the change should submit a request of its intention to the other Party to this MOU for review and comment. The party shall take action to respond to the request within 30 days unless otherwise agreed to by the affected Parties.

11. Addition or Removal of Other Parties - Other jurisdictions or transit operators may be added as a party this MOU and current parties may be removed as a party to this MOU. An amendment to this MOU must be made and agreed upon by all Parties involved in order to add additional parties or to remove current parties.

12. Scheduled Meetings - The Parties to this MOU will meet biannually to review the monitoring reports produced by SANDAG and discuss the status and any potential changes to the TSP, Dedicated Guideway, and/or OLG systems. According to the preference of the Parties involved, the biannual meetings could be conducted as a conference call. An additional annual meeting should be held to review and establish annual budgets and annual funding commitments for the coming year before the annual meeting with the SANDAG Transportation Committee.

13. Conflict Resolution - In the event of a conflict between the Parties, any Party may initiate the conflict resolution process as follows:

    a. The Parties are to submit a memo to all other Parties documenting the reasons and supporting evidence for the conflict or changes to any part of this MOU. After any additional information required has been collected, the Parties to this MOU will meet to discuss the issues and possible solutions in attempting to reach a consensus.

    b. If no mutual consensus can be reached by the Parties involved, the reasons and supporting evidence for the conflict may be presented to the appropriate Division Directors of each Party in order to reach a resolution. Should the appropriate Division Directors of each Party approve the requested TSP changes the Parties involved will be granted permission to implement the proposed changes.

    c. In the event that the Parties involved cannot agree on a resolution to the conflict at Division/Department Director levels, then the Parties agree to abide by the approval or denial of the requested changes at the Executive Director and City Manager level.

14. That all obligations of SANDAG under the terms of this MOU are subject to the appropriation of the required resources by SANDAG and the approval of the SANDAG Board of Directors.

15. Notice **-** Any notice required or permitted under this MOU may be personally served on the other party, by the party giving notice, or may be served by certified mail, return receipt requested, to the following addresses:

For SANDAG:
401 B Street, Suite 800
San Diego, CA 92101
Attn: Kim Kawada
Chief Deputy Executive Director

For MTS:
1255 Imperial Avenue, Suite 1000
San Diego CA 92101
Attn: Timothy E. Allison
Manager of Real Estate Assets

For City of Chula Vista:
276 Fourth Avenue
Chula Vista, CA 91910
Attn: William S. Valle
Director/City Engineer
Department of Engineering & Capital Projects

16. That unless it is amended by the Parties in writing, this MOU is effective for the life of TransNet upon execution by all Parties but subject to termination upon a minimum of a 90 days written notice by any Party and automatically upon termination of legislative or administrative authorization of the Program by any state or federal government agency.

17. Neither SANDAG, MTS, nor City nor any officer, director, or representative thereof is or shall be responsible for any damage or liability occurring by reason of anything done or omitted to be done by any other Party under or in connection with any work, authority or jurisdiction delegated to any other Party under this MOU. It is understood and agreed that, pursuant to Government Code Section 895.4, each Party to this MOU shall fully defend, indemnify and save harmless all other parties, including all officers and employees from all claims, suits or actions of every name, kind and description brought for or on account of injury (as defined in Government Code Section 810.8) occurring by reason of anything done or omitted to be done by any Party under or in connection with any work, authority or jurisdiction delegated to any Party under this MOU. The indemnification provisions of this MOU shall survive termination of the MOU.

18. This MOU shall be interpreted in accordance with the laws of the State of California. If any action is brought to interpret or enforce any term of this MOU, the action shall be brought in a state or federal court situated in the County of San Diego, State of California.

19. All terms, conditions, and provisions hereof shall inure to and shall bind each of the parties hereto, and each of their respective heirs, executors, administrators, successors, and assigns.

20. For purposes of this MOU, the relationship of the parties is that of independent entities and not as agents of each other or as joint venture or partners. The parties shall maintain sole and exclusive control over their personnel, agents, consultants, and operations.

21. This MOU shall be interpreted in accordance with the laws of the State of California. If any action is brought to interpret or enforce any term of this MOU, the action shall be brought in a state or federal court situated in the County of San Diego, State of California.

22. All terms, conditions, and provisions hereof shall inure to and shall bind each of the Parties hereto, and each of their respective heirs, executors, administrators, successors, and assigns.

23. No alteration or variation of the terms of this MOU shall be valid unless made in writing and signed by the parties hereto, and no oral understanding or agreement not incorporated herein shall be binding on any of the parties hereto.

24. Nothing in the provisions of this MOU is intended to create duties or obligations to or rights in third parties to this MOU or affect the legal liability of the parties to this MOU.

25. This MOU may be executed in any number of identical counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed to be one and the same instrument when each party has signed one such counterpart.

Attachments: Exhibit A
Exhibit B
Exhibit C

IN WITNESS WHEREOF, the Parties hereto have executed this MOU effective on the day and year first above written.

CITY OF CHULA VISTA

By _____
MARY CASILLAS-SALAS
Mayor

Approved as to form and Procedure:

By _____
GLEN R. GOOGINS
City Attorney

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

By _____
PAUL C. JABLONSKI
Chief Executive Officer

Approved as to form:

By _____
KAREN LANDERS
General Counsel

SAN DIEGO ASSOCIATION OF GOVERNMENTS

By _____
HASAN IKHRATA
Executive Director

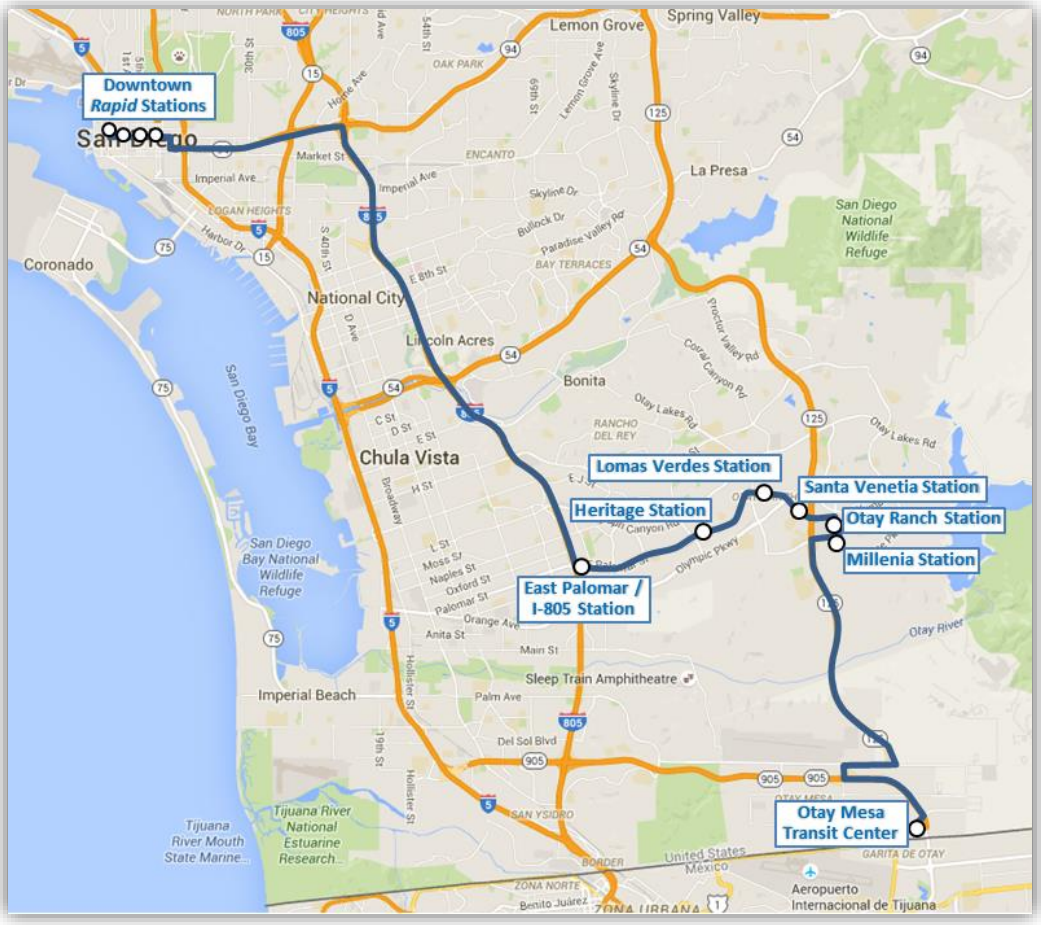
Approved as to form:

By _____
JOHN KIRK
Office of General Counsel

EXHIBIT A

PROJECT LOCATION

The San Diego Association of Governments (SANDAG) is working in collaboration with the Metropolitan Transit System (MTS), Caltrans, and the City of Chula Vista to design and build the South Bay *Rapid* service as part of the voter approved TransNet program. When completed, South Bay *Rapid* will be a 26-mile route from the Otay Mesa Port of Entry to Downtown San Diego via eastern Chula Vista, connecting to employment and activity centers in Downtown San Diego and South County.



The portion of the South Bay *Rapid* route that is within the City of Chula Vista spans from Millennia to the East Palomar Street Park & Ride Transit Station (just east of I-805) via East Palomar Street along the following signalized intersections:

East Palomar St/Nacion Av

East Palomar St/I-805 DAR ***(CALTRANS)***

East Palomar St/Raven Av

East Palomar St/Oleander Av

East Palomar St/Brandywine Av/Medical Center Dr

East Palomar St/Sunbow Plaza (Commercial Drwy)

East Palomar St/Davies Dr

East Palomar St/Medical Center Ct

East Palomar St/Paseo Ladera

East Palomar St/Brashear Pl

East Palomar St/Santa Olivia Rd/Santa Carina Dr

East Palomar St/Santa Sierra Dr/Santa Maria Dr

East Palomar St/Heritage Rd

East Palomar St/Monarche Dr/Santa Rita

East Palomar St/Heritage Station

East Palomar St/Monarche Dr/Santa Andrea St

East Palomar St/Santa Alicia Av

East Palomar St/Santa Flora Rd

East Palomar St/Santa Delphina Av

East Palomar St/La Media Rd

East Palomar St/Santa Cora Av

East Palomar St/Lomas Verde Station

East Palomar St/Vista Sonrisa Av

East Palomar St/Santa Rosa Dr

East Palomar St/Olympic Pkwy

East Palomar St/View Park Wy

East Palomar St/Santa Venetia Station

East Palomar St/Magdalena Av

East Palomar St/Bridge Overcrossing at SR-125

Town Center Dr/Ring Rd (Otay Ranch Town Center)

BRT Guideway/Otay Ranch Town Center (Cinema)

Eastlake Pkwy/Kestrel Falls Rd

Eastlake Pkwy/Birch Rd

Eastlake Pkwy/Stylus St

BRT Guideway Crosswalk at Eastlake Pkwy

BRT Guideway/Solstice Av

BRT Guideway/Orion Av

Orion Av/Stylus St

Orion Av/Artisan Way

Orion Av/Birch Rd

Birch Rd/Millenia Av

Birch Rd/SR125-NB Ramp

Birch Rd/SR125-SB Ramp

EXHIBIT B

QUARTERLY STANDARD PERFORMANCE CHECKLIST FOR TSP INTERSECTIONS

- Check communications system connectivity to the traffic controller and phase selector card, and confirm communications with the Central Signal Management System.
- Connect and download phase selector card data (configurations and stored data) to the field technician laptop or similar download through remote connection
- Check traffic controller firmware/software, as well as timing plan configuration to ensure TSP parameters are in place and correct

QUARTERLY STANDARD PERFORMANCE CHECKLIST FOR DEDICATED GUIDEWAY INTERSECTIONS

- Check communications system connectivity to the traffic controller and phase selector card, and confirm communications with the Central Signal Management System.
- Connect and download phase selector card data (configurations and stored data) to the field technician laptop or similar download through remote connection.
- Check traffic signal controller software to confirm the operating system and controller software are consistent with the latest field release approved versions (as determined by the City).
- Check traffic controller firmware/software, as well as timing plan configuration to ensure proper timing, TSP, and peer-to-peer logic parameters are in place and correct.

QUARTERLY STANDARD PERFORMANCE CHECKLIST FOR OLG INTERSECTIONS AND TRAFFIC SIGNAL EQUIPMENT

- Check communications system connectivity to the traffic controller and phase selector card, and confirm communications with the OLG Control System.
- Check communications system connectivity between the two OLG traffic controllers.
- Connect and download phase selector card data (configurations and stored data) to the field technician laptop or similar download through remote connection.
- Check that battery backup status is ok at both OLG equipment cabinets.
- Check the emergency preemption system for the OLG is operating as designed (e.g. triggers proper signal phases, OLG indications, and gate arm activations).
- Check traffic controller software to confirm the operating system and controller software are consistent with the latest field release approved versions for the OLG and that any additional OLG software modules/installs are correct (as determined by the City).
- Check traffic controller firmware/software, as well as timing plan configuration to ensure proper timing, TSP, peer-to-peer logic, and OLG logic parameters are in place and correct.

EXHIBIT C

COST ESTIMATE

Estimate of City's full cost recovery for traffic signal operations, OLG, and due to TSP program along *Rapid* route:

Position	**Services**	**Approximate hours per year (per intersection)**	**Hourly cost estimate**	**Annual estimate* (per intersection)**
Traffic Devices Technician Supv	Support of Operations Activity	4	$113.77	$455.08
Associate Engineer	Reporting, review, check comm., refine signal timing	12	$137.37	$1,648.44
TOTAL				$2,103.52

Annual estimate per "TSP" intersection: $2,103.52

Number of TSP intersections: 42

Annual estimate* for TSP intersections: $88,347.84

***This annual estimate does not include overtime, on-call, or emergency call back efforts which may be needed to meet the desired response times in this MOU. Therefore, additional costs may be due to SANDAG.**