

FIRST AMENDMENT TO AM SIGNAL HARDWARE AGREEMENT

THIS FIRST AMENDMENT (“Amendment”) amends the Agreement for hardware and (“Agreement”) entered into between the City of Redmond (“City”), and AM Signal, (“AM Signal”). The City and AM Signal are individually a party and collectively the parties.

RECITALS

A. The parties entered into the Agreement effective September 3, 2024. The Agreement the provision of certain hardware by AM Signal to the City.

B. The Agreement did not include an exhibit specifying the system requirements for the hardware to be installed. The parties desire to amend the Agreement in attach such an exhibit.

C. The parties agree to amend the Agreement as set forth herein.

NOW, THEREFORE, the parties agree as follows:

1. New Exhibit Added. A new exhibit Y is added to the Agreement regarding system requirements.
2. Other Provisions Not Affected. Except as expressly amended herein, all provisions of the Agreement remain unchanged and in full force and effect.
3. Counterparts. This Amendment may be executed in counterparts each of which is an original and all of which shall constitute a single agreement.

EXECUTED by the parties on the dates set forth below.

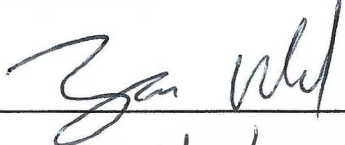
CITY OF REDMOND <hr/> Angela Birney, Mayor Date: _____	AM SIGNAL  <hr/> Date: <u>9/13/24</u>
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Exhibit Y System Requirements

RFP 10807-24 Attachment H MULTIMODAL DETECTION AND ANALYTICS SYSTEM REQUIREMENTS

Adaptive Signals (Downtown Vicinity) *Multimodal Detection and Analytics System* **SYSTEM REQUIREMENTS**

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All System Requirements listed in this document shall be completed with a status number selection of:

- 1 – Meets Requirement,
- 2 – Partially Meets Requirement,
- 3 – Requirement in Development, or
- 4 – Requirement Not Available

System Req Reference #	System Requirement Statement	Mandatory (M) Desirable (D)	Status # (1, 2, 3, 4)	Requirement Status Explanation
1 Application				
1.0-1	The solution can be applied at a minimum of 10 intersections, as proposed by the City and recommended by the System Integrator.	M	1	
1.0-2	The solution shall have multimodal detection and analytics on all approaches of the specified intersections.	M	1	
2 Deployment				
2.0-3	The detection equipment can be mounted to signal pole mast arms or posts.	M	1	
2.0-4	The solution shall be compatible with existing signal controller cabinets.	M	1	
2.0-5	The solution shall provide one or more ways of connectivity to the Internet, including direct line or wireless cellular connection. All City intersections have existing fiber optic, Ethernet communications.	M	1	
2.0-6	The solution shall be capable of being powered by existing service cabinets at the intersections.	M	1	
2.0-7	The solution shall be capable of monitoring in a variety of lighting conditions, including daylight and streetlight.	M	1	
2.0-8	The solution shall be capable of monitoring in a variety of weather conditions, including rain and snow conditions.	M	1	
2.0-9	The processor units required for the solution shall be capable of being installed in the existing signal controller cabinets.	M	1	
2.0-10	The processor units shall be capable of connecting to the existing signal controller (Ethernet, SDLC).	M	1	
3 Durability				
3.0-1	The hardware of the solution shall be designed for use in an outdoor environment.	M	1	
3.0-2	The hardware of the solution shall be designed to resist normal "wear and tear" damage from day-to-day use.	M	1	
3.0-3	The hardware of the solution shall be designed to withstand temperatures ranging from 0°F – 140°F.	M	1	
3.0-4	The dashboard of the solution shall be able to be access via mobile and desktop.	M	1	
3.0-5	The dashboard of the solution shall be connected to the internet.	M	1	
4 Technical Support and Warranty				
4.0-1	All components of the hardware of the system shall be serviceable or replaceable if service is needed.	M	1	
5 Application and Reporting				
5.0-1	Collected data shall be exportable to 3 rd party website or apps that are used or will be used by the City.	M	1	
5.0-1	Multimodal Presence Detection – The solution can detect the presence of road users including pedestrians, bicyclists, cars, small-freight, large-freight, and transit and provide detection information to the signal controller as a supplement to the existing detection system.	M	1	
5.0-2	Signal Controller Integration – The solution shall be capable of sending NTCIP messages and traditional inputs to implement signal timing adjustments including, but not limited to:	D	1	
5.0-2.1	Pedestrian Clearance – hold all red when pedestrian has not cleared crosswalk.	D	1	

5.0-2.2	Pedestrian Extension – extend pedestrian crossing time based on pedestrian speeds and volumes.	D	1	
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5.0-2.3	Red Light Running – hold all red when red light running occurrence is anticipated based on phase state and vehicle trajectory.	D	4	Miovision tracks RLRs for statistical data but doesn't trigger. This is up to the controller to trigger.
5.0-2.4	Dynamic Flashing Yellow Arrow – transition to protected left turn operation only when pedestrian detected.	D	1	Miovision can detect pedestrians, but it is up to the controller to trigger DFYA.
5.0-2.5	Leading Pedestrian Interval – implement leading pedestrian interval when pedestrian detected.	D	1	Miovision can detect pedestrians, but it is up to the controller to enable/disable Leading Pedestrian Interval.
5.0-2.6	No Right Turn on Red – support No Right Turn on Red blank-out sign activation based on active, conflicting pedestrian crossing movements.	D	1	Miovision can detect pedestrians, but it is up to the controller to activate blank out signs.
5.0-3	Multimodal Counts and Classifications - The solution is capable of monitoring and classifying road users including pedestrians, bicyclists, cars, small-freight, large-freight, and transit.	D	1	
5.0-4	Traffic Signal Performance Measurement - The solution is capable of tracking and presenting signal operations performance.	D	1	
5.0-5	Safety Analytics - The solution is capable of monitoring and classifying surrogate safety measures such as near-misses, speeding, and pedestrians crossing outside of the crosswalk.	D	1	
5.0-6	Safety Analytics - The solution is capable of monitoring and classifying vehicle speeds by lane.	D	3	Miovision currently reports the speeds of vehicles involved in a conflict event. Speed reports by lane is an extension of this feature that is in development.
5.0-7	Safety Analytics - The solution can send alerts to the Police Department based on customized rules such as collision detection or detection of extreme speeding instances such as exceeding 70 mph.	D	3	Miovision already has alert functionality and will implement Safety Analytics. Feature is under development.
5.0-8	Safety Analytics - The solution shall allow the City to capture moments leading up to selected events.	D	1	
5.0-9	Safety Analytics - The solution shall allow the City to capture moments leading up to selected events for a selected number of days.	D	1	Miovision detection can collect and store video detection recordings for up to 4 weeks.

6 Operations and Support

6.0-1	The System Integrator shall be responsible of the integration of all equipment and software required for the solution, including any 3 rd party equipment that is required.	M	1	
6.0-2	The System Integrator shall respond to equipment, software, and application downtime and failures within a mutually agreed upon time frame.	M	1	
6.0-3	The System Integrator shall be responsible for the technical support, warranty, updates, and operations of the analytics software or application.	M	1	
6.0-4	The System Integrator shall be responsible for the technical support of the solution, including 3 rd party equipment, software, etc. required for the solution.	M	1	
6.0-5	The System Integrator shall provide on-site product support to set up the application dashboard for City staff.	M	1	
6.0-6	The System Integrator shall provide in-person training of hardware and application dashboard to City staff users.	M	1	
6.0-7	The System Integrator shall notify users if any equipment becomes non-functional.	M	1	

6.0-8	The System Integrator shall work with the City to source and purchase additional detection equipment to meet detection needs solution.	M	1	
6.0-9	The System Integrator shall provide technical support and warranty of the application dashboard.	M	1	

7 Data Storage and Security

7.0-1	The System Integrator shall be responsible for the upkeep, technical support, and warranty of any data within the required data storage period.	M	1	
7.0-2	Data handling and storage should be in accordance with industry best practices.	M	1	

7.0-3	Collected data shall be exportable to City databases for long term storage/archiving, should the City decide to do so.	M	1	
7.0-4	Data collected from the system can be exported or integrated to 3 rd party website(s) or tool(s) that are used or will be used by the City.	M	1	
7.0-5	Solution shall employ best practice security measures, from sensor to cloud (if used) to desktop application/browser.	M	1	