Chicago Arterial Detection (CAD) Budget Narrative

Summary

Item	Cost
Hardware & Storage	$187,000
Licensed Arterial Detection Data	$750,000
System Integrator	$250,000
Contingency	$32,000
Total Project Cost	**$1,219,000**

This project along with the Portable Changeable Message Signs (PCMS) project is scheduled to take 18 months to implement, but will include the purchase of a 10-year licensed data. The Chicago Department of Transportation (CDOT) will select a System Integrator (SI) for evaluating and procuring the data product and integrating the real-time data feed to CDOT's Advanced Traffic Management System(ATMS) application. The System Integrator will coordinate to source all necessary hardware, integrate with existing systems, and develop the new software.

1. Hardware & Storage

Hardware & Storage	Unit Cost	Units	Cost
Server, Storage, and Cloud Services – 10 yrs	$150,000	1	$130,000
Servers & Back-End Hardware	$57,000	1	$57,000
Total Hardware & Storage Cost			**$187,000**

The CAD will be utilizing live traffic data feed from third-party data providers. The servers supporting the data feed will be hosted in the City's datacenter or in a cloud server. The equipment budget is for the server and database storage infrastructure, including all applicable licensing fees and installation costs.

2. Arterial Detection Data

Data	Unit Cost	Units	Cost
10-year license • Traffic Flow Feed • Traffic Incident Feed • Route Monitoring • Intersection Analysis	$75,000	10	$750,000
Total Data Cost			**$750,000**

With the advent of the Internet of Things and connected devices, there are millions of devices and vehicles that can provide real-time traffic conditions information. The amount of data available and the ability to process this data in real-time have been growing exponentially. Agencies are replacing traditional detection systems, which cost significant capital to install and operate, with data available

through third parties like INRIX, TomTom, HERE, Google, Street Light Data etc. City of Chicago has over 4000 miles of arterial streets, and installing and maintaining detection systems that would cover the major arterials alone will be cost-prohibitive. Third-party data can provide the same information for a fraction of the cost of installing and maintaining an agency-owned detection network.

3. System Integrator - Contractual

System Integrator - Contractual	Unit Cost	Units	Cost
System Integrator for: Evaluation of Providers &Data Quality Procurement of Hardware & Data Integration of Data with CDOT ATMS QA/QC	$250,000	1	$250,000
Total System Integrator Cost			$250,000

City will select a qualified System Integrator to procure the data and hardware and develop the Application Programming Interface (API) to integrate the data with CDOT's ATMS application.

CDOT will be responsible for reporting and overall project management. CDOT's inhouse contractor will provide ATMS integration and communication and data architecture support.

Portable Changeable Message System (PCMS) Budget Narrative

Summary

Item	Cost
Hardware & Storage	$700,000
Sign Relocation	$510,000
System Integrator	$350,000
Contingency	$81,000
Total Project Cost	$1,641,000

This project, along with the CAD project, is scheduled to take 18 months to implement, but will include the purchase of a 10-year relocation program, which will ensure support for relocating the signs for various events and emergencies. The Chicago Department of Transportation (CDOT) will select a System Integrator (SI) for evaluating and procuring the hardware, relocation vendor, and integrating the signs with CDOT's Advanced Traffic Management System (ATMS) application. The travel times and event alerts will be generated by the ATMS and sent to the signs automatically and remotely as needed. The System Integrator will coordinate sourcing all necessary hardware, integrating with existing systems, and developing the application programming interface software.

1. Equipment

Equipment	Unit Cost	Units	Cost
Portable Changeable Message Sign Solar Power with Trailer & Cell Modem	$35,000	20	$700,000
Total Equipment Cost			**$700,000**

The PCMS will be utilizing 20 portable message boards. These will be solar-powered and positioned at various decision points along routes leading to event venues and at closures. The signs will have cell modems for remote communication.

2. Sign Relocation

Relocations	Unit Cost	Units	Cost
10-year Sign Relocation Program • Expecting 150 relocations per year	$300	170*10	$510,000
Total Data Cost			**$510,000**

One primary component of the PCMS project will be the relocation of the signs from one event to another. 170 relocations are expected per year for all the signs combined. $300 cost per relocation expected. A vendor will be selected initially for a 10-year relocation program.

3. System Integrator - Contractual

System Integrator - Contractual	Unit Cost	Units	Cost
System Integrator for: Evaluation of hardware, relocation vendor, Procurement of Hardware, and build the Integration with CDOT ATMS to remotely post the messages.	$350,000	1	$350,000
Total System Integrator Cost			**$350,000**

City will select a qualified System Integrator to procure the hardware, relocation program vendor, develop a methodology for identifying the locations for sign placement, and develop the Application Programming Interface (API) to integrate the data with CDOT's ATMS application. All the messages for the signs will be generated in the CDOT ATMS and will be remotely posted on the sign. Utilizing mobile communication. City will manage and pay for the monthly cell/mobile service fee.

CDOT will be responsible for reporting and overall project management. CDOT's in-house contractor will provide ATMS integration and communication and data architecture support.