



Volume II
Budget
Information

Pinellas Advanced SmartTracs System (PASS)

I – Application Standard Forms (SFs)

Standard Forms are submitted as individual files.

II – Summary Budget Narrative

Planned Project Costs

The following table provides a detailed breakdown of the PASS budget estimate but type eligible activity. These budget items will deliver PASS over the four-year schedule.

Table 12: PASS Detailed Cost Estimate

Eligible Activities	Task Description	Quantity	Unit Cost	Unit	Total Cost
Planning and Project Management	Planning, System Engineering, and Design	1	\$600,000.00	LS	\$600,000.00
	Grant Management	1	\$400,000.00	LS	\$400,000.00
	NEPA Evaluation	1	\$200,000.00	LS	\$200,000.00
	Pre and Post Evaluation	1	\$350,000.00	LS	\$350,000.00
Equipment and Materials	AXIS 12MP 360° Outdoor Panoramic Network Camera with Night Vision	84	\$860.00	EA	\$72,240.00
	AXIS Pendant Kit	84	\$65.00	EA	\$5,460.00
	Bent Metal Works 48" Offset Aluminum Camera Mount	84	\$165.00	EA	\$13,860.00
	Astro-Brac Stellar Clamp Kit 120" Cable Mnt w/Stainless Cable & Hardware, Alum	84	\$150.00	EA	\$12,600.00
	Citel Outdoor PoE (Power-over-Ethernet) Surge Protector in Metal Enclosure	84	\$140.00	EA	\$11,760.00
	Citel Pole Mount for CRMJ8-POE-C6	84	\$20.00	EA	\$1,680.00
	Citel Power Over Ethernet (POE) Mode-A Surge	84	\$80.00	EA	\$6,720.00

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Eligible Activities	Task Description	Quantity	Unit Cost	Unit	Total Cost
	Protector, 10/100/1000Base-TX Shielded RJ45 Ports, 48 VDC Powered, DIN-Rail Mountable.				
	Derq Edge Unit Package	84	\$10,000.00	EA	\$840,000.00
	Derq Sense - AI Detection (Edge Detection for Pedestrian Safety & Traffic Control)	1	\$55,000.00	EA	\$55,000.00
	Derq Sense - CAV (Edge Off-board Perception for CAVs)	1	\$80,000.00	EA	\$80,000.00
	Axilion X Way Implementation	1	\$200,000.00	LS	\$200,000.00
	Roadside Units (Kapsch + 5 spares)	36	\$3,500.00	EA	\$126,000.00
Construction	Labor and Install - Configuration and Integration	1	\$500,000.00	LS	\$500,000.00
	Detection - Intersection and Mid Block	38	\$40,000.00	EA	\$1,520,000.00
	Mobilization	1	\$101,000.00		\$101,000.00
	Maintenance of Traffic	1	\$101,000.00		\$101,000.00
	Construction Engineering and Inspection	1	\$333,300.00	LS	\$333,300.00
Licensing (3 years)	Transit Signal Priority	84	\$9,000.00	EA	\$756,000.00
	Emergency Vehicle Preemption	84	\$3,000.00	EA	\$252,000.00
	Derq Traffic and Safety Insights (Includes modules for near miss reporting, traffic	1	\$170,000.00	LS	\$170,000.00

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Eligible Activities	Task Description	Quantity	Unit Cost	Unit	Total Cost
	violation reporting, pedestrian and VRU Compliance Reporting, and Traffic Counts and Classification, Turning Movement Counts)				
	Axilion - X Way AI	3	\$325,000.00	per year	\$975,000.00
Operations and Maintenance	IoT Exchange	1	\$150,000.00	LS	\$150,000.00
Technical Assistance, Workforce Development, and Training/ Education		1	\$500,000.00		\$500,000.00
Total					\$8,333,620.00

Planned Project Costs by Year

The following table shows estimated PASS budget needs by year for each of the four years of the schedule, summarizing each eligible work activity. The table also shows the estimate federal and Pinellas County funds for each year.

Table 13: Expenditures by Year

Eligible Activities	Year 1	Year 2	Year 3	Year 4	Total
Planning and Project Management	\$987,500.00	\$187,500.00	\$187,500.00	\$187,500.00	\$1,550,000.00
Equipment and Materials	\$0.00	\$1,425,320.00	\$1,076,500.00	\$1,076,500.00	\$3,578,320.00
Construction	\$0.00	\$2,555,300.00	\$0.00	\$0.00	\$2,555,300.00
Operations and Maintenance	\$0.00	\$0.00	\$75,000.00	\$75,000.00	\$150,000.00

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Eligible Activities	Year 1	Year 2	Year 3	Year 4	Total
Technical Assistance, Workforce Development, and Training/Education	\$375,000.00	\$125,000.00	\$0.00	\$0.00	\$500,000.00
Total Federal Share	\$500,000.00	\$500,000.00	\$500,000.00	\$500,000.00	\$2,000,000.00
Total Non-Federal Share	\$862,500.00	\$3,793,120.00	\$839,000.00	\$839,000.00	\$6,333,620.00
Total Estimated Cost	\$1,362,500.00	\$4,293,120.00	\$1,339,000.00	\$1,339,000.00	\$8,333,620.00

Planned Percentage Matching Funds by Year

The next table shows the breakdown between federal and non-federal funds by year. In total, PASS is requesting \$4.0 million in federal funds or 24.0% of the total estimated cost.

Table 14: Federal and Matching Funds

Eligible Activities	Year 1	Year 2	Year 3	Year 4	Total
Total Federal Share	\$500,000.00	\$500,000.00	\$500,000.00	\$500,000.00	\$2,000,000.00
Federal %age	36.7%	11.6%	37.3%	37.3%	24.0%
Total Non-Federal Share	\$862,500.00	\$3,793,120.00	\$839,000.00	\$839,000.00	\$6,333,620.00
Non-Federal %age	63.3%	88.4%	62.7%	62.7%	76.0%
Total Estimated Cost	\$1,362,500.00	\$4,293,120.00	\$1,339,000.00	\$1,339,000.00	\$8,333,620.00

Planning and Project Management Activities

Planning activities including systems engineering analysis and documentation, design, and procurement.

Project management activities include project management, meetings, coordination with FHWA, project team and stakeholders, invoicing, and reporting as required by the NOFO and as discussed above.

Equipment and Materials

The following describes equipment and materials planned for installation with the PASS project.

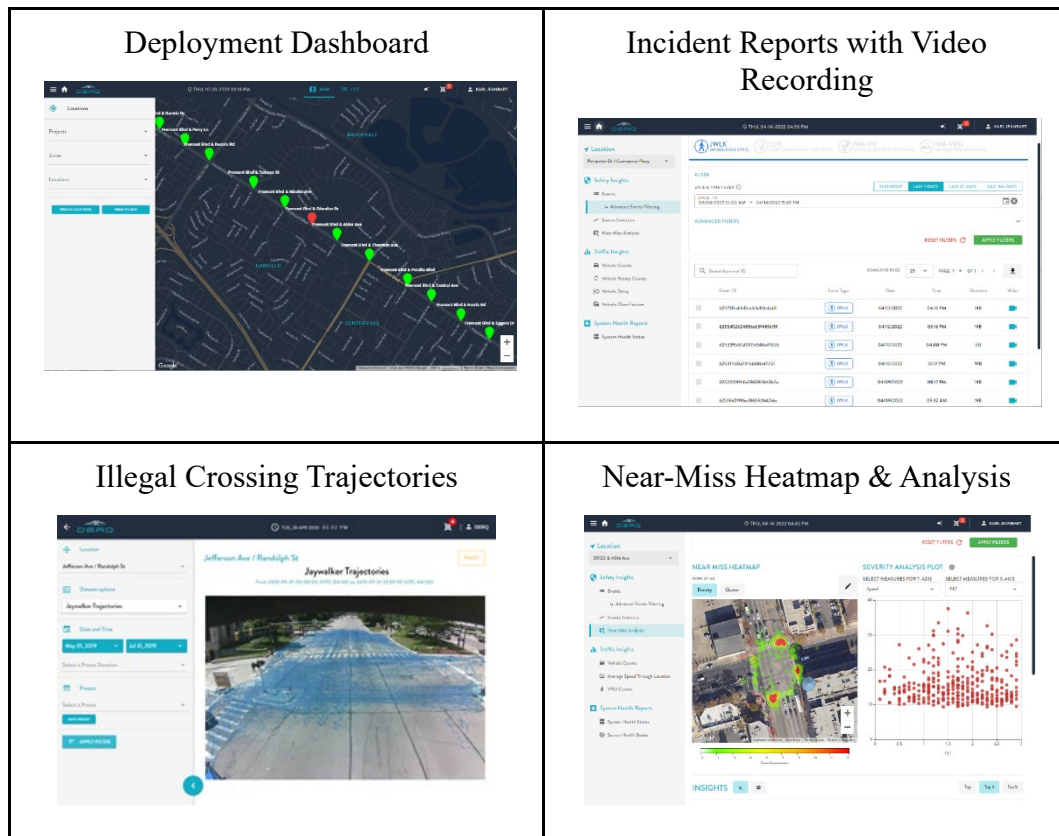
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DERQ Solutions:

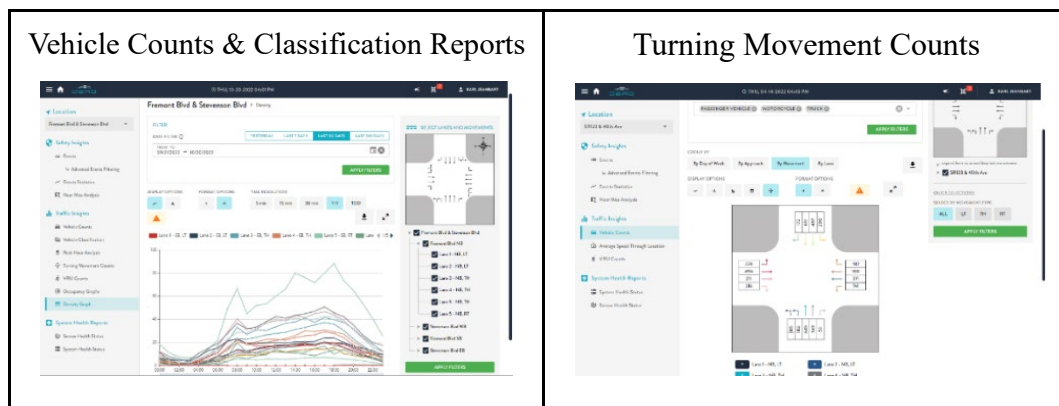
The budgetary estimate for the deployment of the Derq solution at an intersection, including hardware and software licenses, and implementation support. This price includes:

- 1 x Derq Edge units with ancillary electronics (LTE router, switch, PSUs, etc.), mounting hardware, cables
- 2 x Panoramic (360) multi-modal network cameras
- Software License for Vehicle and Pedestrian/Bicycle Detection (Perpetual)
- Software License for Perception for V2X Message Generation (Perpetual)
- Software Licenses for all dashboard Safety and Traffic Insights modules for all camera feeds at the selected intersections for three (3) years
- Access to Derq's web-dashboard for an unlimited number of users for three (3) years
- Implementation support, including: On-site supervision, system configuration, and training.

Table 15: Typical Derq Output Screens



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Lyt:

Lyt technologies will look to incorporate Transit Signal Priority (TSP) and Emergency Vehicle Preemption (EVP). The associated budget consideration includes:

- TSP:
 - \$3,000 per signal per year
 - One time configuration cost of \$2,000 per signal
 - One time configuration cost of Maestro (micro server/gateway device) of \$10,000
- EVP:
 - \$1,000 per signal per year
 - One time configuration cost of \$1,000 per signal
 - One time configuration cost of Maestro (micro server/gateway device) of \$10,000

Axilion X Way:

Axilion will implement its X Way platform services for 77 intersections, configured within eight traffic corridors. The budgetary quotation is segmented as follows:

- **X Way Implementation Fee - Applicable for the SW development phase:**
 - Incorporation of all activities related to integration with traffic, safety, and transit data providers.
 - Porting of eight corridors to the X Way platform.
 - Customization of the X Way Priority Hub to align with the resources and requirements of Pinellas County.
 - Integration to Pinellas Smart City Data Platform
 - Integration to Pinellas ATMS system (e.g. Centracis Mobility), allowing for automated High Res log content as well as automated timing plans download to ATMS
 - A one-time implementation fee of \$200,000.
- **X Way Annual Services - Applicable for the Official launch phase:**
 - Comprehensive platform services for Pinellas County, encompassing access to:

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- Continual monitoring of safety, congestion, and priority updates across all corridors, facilitated by an individualized Priority Hub dashboard to view and manage all corridors in one place.
- Extensive analytics for all corridors, including congestion and performance analyses, microsimulations, and a detailed corridor-level visualizer, all utilizing constantly updated traffic demand records.
- An annual service fee of \$100,000.
- Suite of Corridor level tools enabling for Pinellas County traffic management personnel to optimize traffic flow (corridor retiming) through the following measures:
 - Eight yearly AI based corridor level optimization efforts, all support:
 - Executive-level priorities, such as improving pedestrian safety, maximizing system capacity, reliable travel time and reducing carbon emissions.
 - Safety related optimization guidelines via a dedicated safety planning tool.
 - Unlimited iterations of manual parameter level adjustment effort, supporting:
 - Automatic Ring & Barrier validation.
 - Complementing offset optimization (when needed).
 - All retiming schemes are validated via a dedicated X Way analytics tool, comparing the new timing to in-field over the recent one month of Traffic data.
 - An annual service fee of \$200,000.

Construction

Construction includes installation, configuration, and integration of roadside technologies described under “Equipment and Materials,” furnishing, installing, and integrating smart detection systems, mobilization, maintenance of traffic, and construction engineering and inspection.

Installation, Configuration, and Integration

Smart PASS technologies described above will be installed at traffic signal locations and at the Pinellas County Primary Control Center. These technologies will be configured according to manufacturers requirements and integrated according to the PASS architecture and requirements.

Smart Detection:

Six (6) smart micro TRUGRD Stream sensors (radars) at 38 PASS intersections, as follows:

- (4) of the sensors are deployed to provide traditional stop bar and advance vehicle detection for each approach.
- (2) of the sensors are mounted over outbound traffic of the mainlines, detecting outbound traffic at about 600-800ft from the intersection for mid-block data collection.

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Mobilization and Maintenance of Traffic

Mobilization and Maintenance of Traffic were budgeted at 5% of Construction budget.

Licensing

PASS is using vender-provided applications and software that have licensing fees for system maintenance, support, and updates during the project.

Operations and Maintenance

Pinellas County will operate and maintain (O&M) PASS during the final two years of the PASS schedule and intends to operate it beyond the completion date of the grant. The technology vendors will support O&M as a part of their annual licensing fees.

Technical Assistance, Workforce Development, and Training/Education

Many of the PASS technologies are new to Pinellas County. Technology vendors have agreed to provide technical assistance and training for Pinellas County technicians in the Primary Control Center and field technicians. Pinellas County also utilizes consultants to support traffic signal maintenance and traffic signal timing updates. Personnel from these organizations will be including in training sessions.

III – Cost-Share Information

Pinellas County will provide \$6.3M of the \$8.3 M project total, providing a 76% non-federal cost share. The local match come from the county for the purpose of “providing better flow of traffic in the county.” This money will provide \$6.3 million in FY 2025, becoming available on October 1, 2024.

Funds Source	Amount	Percent of Total
Pinellas County	\$6,333,620.00	76.0%
ATTAIN Grant	\$2,000,000.00	24.0%
Total	\$8,333,620.00	100.0%

See Appendix B for the letter of commitment to provide the \$6.3 million as the county’s local match.

IV – Other Federal Funding Received or Requested

Neither Pinellas County or its project partners have requested or received any other federal funds to support the PASS project.

V – Organizational Information

1. Exceptions to Award Terms and Condition: PASS does not anticipate any exceptions to the anticipated award terms and conditions as contained in Section F, Federal Award Administration Information. PASS does not include any preexisting intellectual property County-owned that will be used during award performance.
2. SAM UEI number: UEI # R37RMC63XKG1 (associated with DUNS # 055200216)

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3. A-133 Single Audit: The County clerk performs an annual audit of the Pinellas County government. Results can be seen at www.pinellasclerk.org. The latest CAFR audit report was submitted to the Board of County Commissioners on March 25, 2020.
4. Conflicts of interest: The PASS project has NO potential conflict of interest.
5. Statement about Federal or State Audit: No Federal or State organization has audited Pinellas County recently. Pinellas County prepares Annual Comprehensive Final Audit Reports in compliance with Chapter 218.32, Florida Statutes. The County submits each annual report for an independent audit. The most recent independent audit prepared by Crowe LLP concluded on March 28, 2023: “In our opinion, the County complied, in all material respects, with compliance requirements referred to above that could have a direct or material effect on each of its major federal programs and state financial assistance projects for the year ended September 2022.”
6. Terminated Contracts: No Pinellas project has been terminated for the convenience of the Government within the past three or defaulted in the past five years.
7. Reporting Requirements Acknowledgement: Pinellas has reviewed 2 CFR Part 170 (<https://www.ecfr.gov/current/title-2/subtitle-A/chapter-I/part-170>) dated September 14, 2010, and Appendix A thereto, and acknowledges that it understands the requirement, has the necessary processes and systems in place, and is prepared to fully comply with the reporting described in the term if it receives funding resulting from this notice. Pinellas County acknowledges that the text of Appendix A will be incorporated in the award document as a General Term and Condition as referenced under this notice’s Section F, Federal Award Administration Information.
8. Violations of Federal Criminal Law Disclosure: Pinellas County is not aware of any violations of Federal criminal law involving fraud, bribery, or gratuity on the part of the county or stakeholders in the PASS project application. Pinellas County acknowledges that failure to make required disclosures can result in any of the remedies described in 2 CFR 200.339 titled Remedies for Noncompliance, including suspension or debarment. (See also 2 CFR Part 180 and 31 U.S.C. 6102).