SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

ITEM 2205-14: Approving the Selection of Greenman-Pedersen, Inc. (GPI) as the Consultant for the Countywide Local Road Safety Plans

PROPOSAL

At its May 9, 2022, meeting, the Technical Advisory Committee recommended that the Policy Board approve the selection of Greenman-Pedersen, Inc. (GPI). in association with Jacobs, Urban Engineers, FHI Studio (DBE), and TechniQuest (DBE) for the Countywide Local Road Safety Plans technical study.

BACKGROUND

The Request for Proposal (RFP) for the technical study was issued on Wednesday, January 26, 2022 with proposals due on Tuesday, March 1, 2022.

For this technical study, SJTPO was seeking qualified firm(s) to develop and implement four Countywide Local Road Safety Plans for each county that will address the unique safety needs of each county and local jurisdictions. The effort will include a number of critical efforts, including identifying and assembling a series of stakeholders at the local, county, regional, and state levels, extensive roadway feature data collection, data analysis, development of a menu of systemic safety countermeasures, development of a safety investment strategy, the conduct of a Safe System Assessment, the creation of the Plan documents, and the option to extend the contract beyond the two-year effort to conduct ongoing support and application assistance. The effort is in support of New Jersey's Strategic Highway Safety Plan (SHSP).

The Notice of Availability for this Request for Proposals was sent to 258 contacts. A total of four (4) proposals were received. Proposals were reviewed and scored by the TAC-designated Consultant Selection Committee with representatives from Atlantic, Cape May, Cumberland, and Salem Counties, the Cities of Vineland and Atlantic City, SJTPO, DVRPC, and with consultation from NJDOT and FHWA-NJ (no scores). Proposals were evaluated based on the technical approach, value given stated costs, consultant team qualifications, and DBE participation. Scores for each reviewer were converted to ranks, which were then averaged amongst all reviewers with **Greenman-Pedersen, Inc. (GPI)** emerging as the top-ranked firm. For this technical study, GPI is partnering with Jacobs and Urban Engineers, as well as FHI Studio and TechniQuest, who will serve as the DBE/ESBE firms.

The scope of work and the associated project costs were reviewed and negotiated. Therefore, the proposed two-year cost is **$3,059,451.77**, with 14.5% DBE participation. NJDOT will authorize funding for this two-year effort in two separate federal fiscal years, the first will authorize $1,998,815.93 in FFY 2022, noted as Part A in the proposal, and the second will authorize the balance of the contract, or $1,060,635.84, noted as Part B in the proposal, early in FFY 2023. This technical study is a two-year effort with an anticipated contract end date of June 30, 2024.

The proposal includes the option to extend the contract for a third year, noted as Part C in the proposal, which will provide ongoing support for the Plans as well as support to counties and municipalities in seeking funding for projects that support substantively safety. The attached resolution authorizes the Executive Director to negotiate minor revisions to the scope of work and fee to best advance the goals and intent of the project.

This study is to be funded using Statewide Highway Safety Improvement Program (HSIP) funds through DBNUM 09388 Highway Safety Improvement Program Planning. While this effort is identified in the FY 2023 UPWP under Task 23/403, indicating a budget of $1,600,000, HSIP funds will be authorized for the technical study based on the winning consultant cost proposal. NJDOT Bureau of Bicycle, Pedestrian, and Safety Programs will evaluate the consultant's Scope and Cost and authorize funds appropriately. A separate Task Order will be executed for the technical study, above and beyond funding that is within the FY 2023 UPWP.

May 4, 2022

South Jersey Transportation Planning Organization
782 South Brewster Road, Unit B6
Vineland, NJ 08361
Attn: Alan Huff, Program Manager – Safety Initiatives & Public Outreach

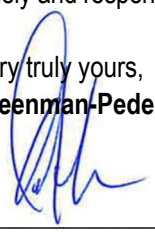
Re: Countywide Local Road Safety Plans

Dear Mr. Huff:

Greenman-Pedersen, Inc. (GPI) is pleased to submit our revised scope and fee proposal to prepare Countywide Local Road Safety Plans for Atlantic, Cape May, Cumberland, and Salem Counties.

We hope that our proposal clearly reflects our understanding of this assignment, the requirements of the program and related schedule along with our extensive relative experience providing similar services. We are confident that we can provide SJTPO as well as the safety stakeholders of Atlantic, Cape May, Cumberland, and Salem Counties with the highest level of service in a timely and responsive manner.

Very truly yours,
Greenman-Pedersen, Inc.

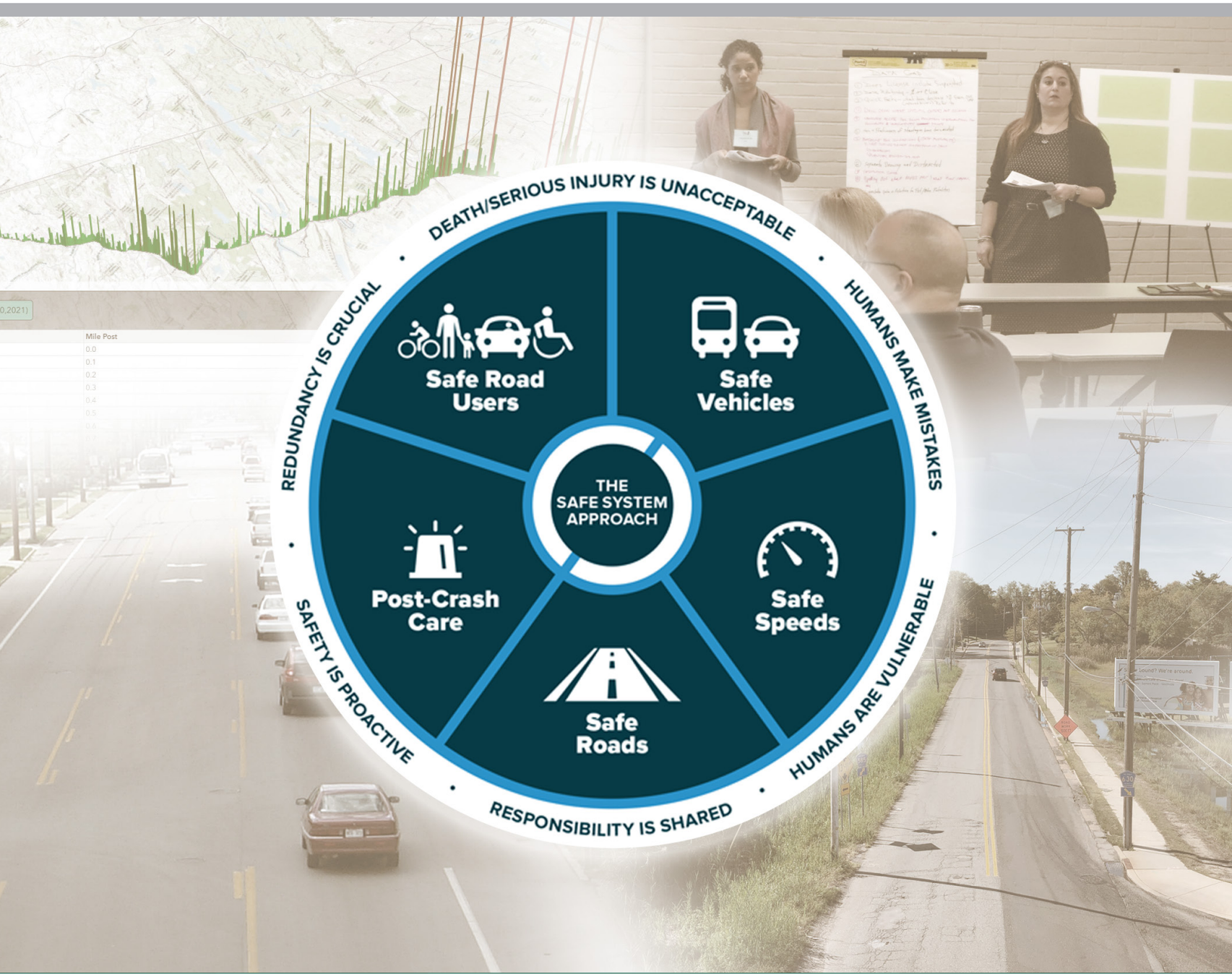


Dave Kuhn, P.E.
Senior Project Manager / Assistant Vice President

Technical Proposal

Countywide Local Road Safety Plans

South Jersey Transportation Planning Organization



Submitted on May 4, 2022 by:

GPI

in association with:
Jacobs
Urban Engineers
FHI Studio (DBE/ESBE)

SCOPE OF SERVICES

The following provides our detailed technical approach for each task identified in the SJTPO's RFP, dated January 26, 2022, including key issues, solutions and assumptions. Our proposed scope of services is based on the scope prepared in response to the RFP and additional guidance/direction provided by SJTPO on April 21, 2022.

In addition to the detail provided by task, each task description will identify the services or portion of services to be provided under Part A, first authorization (FFY2022); Part B, second authorization (FFY2023); and Part C, Ongoing Support During Implementation (FFY2024). A detailed scope and fee proposal for Part C Tasks will be developed approximately midway through the development phase, likely mid to late calendar year 2023.

Please note: The services proposed in the following do not duplicate any work being performed by GPI or our subconsultants on any existing contractual work with NJDOT, including, but not limited to: Highway Safety Improvement Program (HSIP) term agreement; NJ 2020 Strategic Highway Safety Plan; Traffic Monitoring System Data Collection, Roadway Inventory and Digital Imaging Services; Horizontal Curve Warning and Speed Advisory Study; and Safety Voyager Application Support.

TASK 1 - COORDINATION AND OUTREACH

1A. Program Coordination

GPI will provide overall management and coordination of the project. GPI's Project Manager, Dave Kuhn, PE, successfully managed the completion of the NJ 2020 Strategic Highway Safety Plan on an accelerated schedule through the COVID-19 pandemic and continued as the Project Manager through Implementation Year 1. Mr. Kuhn and the GPI Team will bring their experience with the NJ 2020 SHSP, the HSIP Program and lessons learned from LRSPs to develop LRSPs that are actionable and sustainable. Mr. Kuhn will be responsible for management of the scope, schedule and budget of this project and will be the primary point of contact with SJTPO's project manager.

Mr. Kuhn and the GPI Team recognizes that moving to implementation as early as possible is a goal of this project and will continue to look for efficiencies to accomplish this goal while not compromising the quality of the work.

Meetings/Coordination: The GPI Team will provide full support to all of the committees and focus groups. This includes meeting scheduling, preparation of agendas, meeting materials, facilitation, and meeting summaries.

Regional Summits, County Steering Committees, and Focus Team meeting coordination is accounted for in the scope under Stakeholder Outreach.

Program Support Committee (PSC) Meetings – PSC meetings will be held ahead of key milestones such as Regional Summits, Count Steering Committee (CSC) Meetings to ensure project sponsors (SJTPO, NJDOT, FHWA) and County Champions are on-board with presentation materials or documents that may be provided to the CSCs. GPI will lead meeting support for the Program Support Committee. The table below outlines PSC meeting assumptions.

Program Support Committee Meeting Maximums			
Development (2-yr period)	**Implementation (Estimated)**	**Total**	**Assumptions**
10	4	14	Assume half in-person mtgs and half virtual mtgs each year => 7 in-person and 7 virtual to review/approve project deliverables, presentation materials, etc. Assume all GPI firms will be represented at all meetings.

Mr. Kuhn will provide biweekly progress emails to SJTPO's Project Manager as indicated in the RFP. GPI, however, will not wait to notify SJTPO's Project Manager of issues. SJTPO will be alerted at once and GPI will determine potential solutions and recommendations. GPI and its team members will be available to meet with the SJTPO Project Manager to discuss issues or prepare for PSC meetings and other meetings.

Invoicing: GPI will prepare monthly invoices accompanied by a written progress report that identifies work performed, upcoming work and deliverables, as well as any issues or potential issues that could affect the project scope, schedule or budget.

Commitment to Quality: The GPI Team is committed to providing the highest quality services to the SJTPO as we do for all our clients, for this and every project. Each firm which comprises our Project Team has their own Corporate QA Program which will form the basis for the Project Specific Quality Assurance Plan (PSQAP) prepared for this agreement. Our proposed Quality Control and Assurance Manager, Bernard Boerchers, P.E. will prepare the PSQAP, and will be responsible for ensuring that proposed QA/QC procedures are implemented. Mr. Boerchers will also ensure that the appropriate reviews can be made on the project so as not to interfere with the project production and submission schedules. Quality Management credentials of Mr. Boerchers are presented in his resume as provided this proposal.

In-House Review of Data Collection and Submissions: We recognize that the SJTPO will be relying on the completeness and accuracy of our work and does not have the time or staffing to provide a detailed review of our submissions. We further recognize, reviews performed by the Project Sponsor, NJDOT and other agencies are not a detailed check of our work. Therefore, we will take full responsibility for our work. All data collection and submissions will be reviewed for conformance with project scope, comments on previous submissions, and overall quality. A peer review will be performed on critical items prior to submission to the SJTPO.

Communication: Communication is the key to the successful completion of any project. It is particularly important when working as part of a multi-discipline team with subconsultants, and we recognize that any slip in our schedule could impact and delay the entire project delivery process. Keeping our staff and the SJTPO informed on a regular basis is critical to maintaining schedule, budget and quality. GPI's Project Manager will discuss the means for communication with the SJTPO and each of the reviewing agencies including NJDOT, FHWA, and key county stakeholders, and set the protocol for this project. Action items will be documented and tracked, identifying task, person responsible to complete and date of completion for each action item to meet project objectives on schedule.

1B. Stakeholder Outreach and Participation

Urban Engineers will lead stakeholder outreach efforts for the GPI Team. FHI Studio, a certified DBE/ESBE will provide support on this task.

County and municipal resources are limited. The GPI Team's approach is to engage stakeholders in ways that will make efficient use of their time. Meetings must be substantive, with clearly defined purposes, objectives, and deliverables that are communicated with the stakeholders. The counties will provide guidance on their desired meeting frequency. The GPI Team may provide electronic updates in lieu of meetings with the approval of SJTPO. The GPI Team will provide technical support for the County Steering Committees. The County Steering Committees will be presented with data and analysis outcomes, solution options, and recommendations for consideration, discussion, and decisions. In between County Steering Committee Meetings, the GPI Team will coordinate with the County Champion and other key stakeholders as required. If needed, however, Focus Groups may be convened to discuss particular issues in more depth.

Stakeholder meetings: The following table summarizes the maximum number of stakeholder meetings and assumptions as part of this scope of services. Because our LRSP SME, Mr. Maistros of Jacobs will be traveling for in-person attendance at many of the meetings, we would like to group meetings close together where possible to minimize his need for travel.

Formal Meetings		LRSP Development		
	Maximums	**Meeting Assumptions**	**Part A, First Authorization**	**Part B, Second Authorization**
County Workshops	**12** (3 workshops X 4 counties)	**Twelve (12) in-person mtgs with hybrid attendance capability. Up to two breakout sessions may have hybrid attendance if required. Jacobs assumes six (6) trips to carry out the 12 workshops.**	**4**	**8**
County Steering Committees (One per county)	**32** (4 CSCs X 4 mtgs/yr. X 2 yrs.)	**Sixteen (16) in-person mtgs with hybrid attendance capacity. Sixteen (16) fully virtual mtgs. Jacobs assumes four (4) trips to attend eight (8) meetings in person. Jacobs will attend the others virtually.**	**8**	**24**
Focus Teams	**8** (4 FGs X 2 mtgs)	**Four (4) in-person mtgs with hybrid attendance capacity. Four (4) fully virtual mtgs. Jacobs does not plan to attend in person.**	**4**	**4**
Elected Officials Focus Teams (One per county)	**32** (4 EOFGs X 4 mtgs/yr. X 2 yrs.)	**Sixteen (16) in-person mtgs with hybrid attendance capacity. Sixteen (16) fully virtual mtgs. Jacobs assumes in-person**	**8**	**24**

		attendance for twelve (12) meetings.		
Virtual On-Demand Workshops	**2**	**NA**	**2**	**0**
Public Information Meetings (One per county)	**4** (1 PIC X 4 counties)	**Four (4) in-person public information meetings. Meeting materials may also be posted on the webpages. Jacobs does not plan to attend in person.**	**0**	**4**
County Commissioner Meeting (CCM) (One per county)	**4** (1 CCM X 4 counties)	**Four (4) in-person attendance. Jacobs does not plan to attend in person.**	**0**	**4**

1B.1. Stakeholder Identification and Recruitment - The GPI Team will work with SJTPO, County officials and others to identify key stakeholders to serve on the County Steering Committees and to participate in the Regional Summits. A full stakeholders list will be developed and maintained. CSC membership should include representatives of county and municipal governments (elected or administration officials, engineering, public works, and law enforcement) as well as other representatives that address all 5Es: engineering, enforcement, education, emergency response (first responders and healthcare), and equity. Stakeholder identification and recruitment will be done through a two-pronged approach. Firstly, through soliciting input from SJTPO, NJDOT, and FHWA. Secondly, through leveraging networks established through the recent 2020 NJ SHSP and previous efforts in the SJTPO region. Urban will reach out through phone or virtual calls as well as emails. If necessary, such as calls with nominated champions or elected officials, SJTPO and/or a state official may need to be part of the call.

Task 1B.1 will be authorized under Part A, First Authorization.

1B.2. County Workshops – GPI will prepare an agenda with Urban's assistance. Urban will identify a venue and make arrangements for use. Urban will make arrangements will be made for virtual summit participation on a secure platform. Urban will develop marketing materials for the workshops and send invitations to stakeholders and track RSVPs. Urban will prepare name tags for attendees. A program will be developed. If workshops include any breakout sessions, Urban will make arrangements for up to two (2) sessions to have hybrid participation capability. All workshop proceedings will be recorded for posting on SJTPOs website or other webpage. The GPI Team will document the workshop proceedings, including breakout sessions if held. FHI Studio will make arrangements for translation services and for accommodating those with disabilities, such as hearing impaired or vision impaired.

See table above related to authorization.

1B.3. County Steering Committee (CSC) Meetings – The GPI Team will prepare agendas for SJTPO approval with assistance from Urban. Urban will identify a venue(s) for the CSC meetings and make arrangements for use. Arrangements will be made for virtual participation on a secure platform. The GPI Team will schedule the meetings in coordination with the County Champion and key stakeholders. GPI will develop meeting materials for review and approval by SJTPO. The GPI Team will send invitations to stakeholders and track RSVPs. The GPI Team will assist in facilitating meetings as needed by each county. The GPI Team will prepare meeting summaries and action items. Urban will make arrangements for translation services and for accommodating those with disabilities, such as hearing impaired or vision impaired.

See table above in regard to proposed funding authorization.

1B.4. Focus Team Meetings – The GPI Team will develop content and meeting materials for Focus Team meetings. Urban will make arrangements for meeting venues and provide for virtual participation and schedule the meetings. The GPI Team will prepare meeting agendas and summaries.

See table above in regard to proposed funding authorization.

1B5. Elected Officials Focus Group (EOFG) Meetings – An elected official focus group will be established for each county. The purpose of this group will be to share information and obtain input/feedback from elected officials to make the LRSPs more successful. The GPI Team will develop content and meeting materials for EOFG meetings. Urban will make arrangements for meeting venues and provide for virtual participation and schedule the meetings. The GPI Team will prepare meeting agendas and summaries.

See table above in regard to proposed funding authorization.

1B.6. Public Meetings –The GPI Team will work with the CSC to identify an appropriate Public Meeting location and make arrangements for an appropriate time. The GPI Team will prepare materials for public meetings, such as display boards and fact sheets in multiple languages as required. The GPI Team (FHI Studio) will make arrangements for translation services and for accommodating those with disabilities, such as hearing impaired or vision impaired. The GPI Team (Urban) will prepare public notices for these meetings through multiple mediums (websites, newspapers, press releases, social media, digital ads, signs, mailers, etc.).

See table above in regard to proposed funding authorization.

1B.7. Board of County Commissioner Meetings – Upon approval of the Final Draft Plans by the PSC and the CSC, the plans will be presented to the County Commissions. The GPI Team will prepare a presentation that may include a PowerPoint presentation or physical display boards. The GPI Team will be prepared to make a presentation or portions of the presentation on behalf of the CSC.

See table above in regard to proposed funding authorization.

1B.8. Virtual On-Demand Workshops with County-level portals (FHI) - Online virtual engagement is an effective method to obtain high-quality input from diverse stakeholders and interests, and often from stakeholders that would not attend a conventional in-person meeting. The GPI Team is well-skilled in developing interactive exercises, that are engaging and deliver useful input to shape the Local Road Safety Plans.

The GPI Team will use the project website (see below) to host two (2) on-demand virtual workshops, timed to coincide with key project milestones, such as Public Meetings or County Workshops. The virtual workshops would be developed using an online engagement platform that provides a graphically engaging, user-friendly toolkit to share ideas, express concerns, and respond to recommendations. A variety of outreach methods, including surveys, interactive mapping, "idea walls," and other exercises can be housed on the website. A summary of input will be provided for each virtual workshop.

Task 1B.8 will be authorized under Part A, First Authorization.

1B.9. Social media (FHI) - Social media messaging will be developed for posting on the SJTPO and County social media channels. The GPI Team will develop a media plan that includes a social media campaign and calendar to serve two primary goals: increase awareness of the plan and drive traffic to engagement opportunities such as a virtual workshop or public meeting.

Task 1B.9 will be authorized under Part A, First Authorization.

1B.10. Website (FHI) - The GPI Team will develop a project website that will serve as a hub of information, including ways to engage with the development of the plans. This will establish a landing page with basic project information. Individuals and organizations will be able to send their ideas to a dedicated project email and sign up to receive project updates and meeting notifications. Website content will be updated on a regular basis throughout the project. The GPI Team will incorporate project branding into the design of the site and will host, develop, and manage the website. The website will include dedicated webpages for each of the four (4) SJTPO counties. Where appropriate, website library materials such as fact sheets and related collateral will be translated into Spanish, Chinese Mandarin, Vietnamese, and Gujarati. The GPI Team will arrange for hosting of the website if desired. The GPI team will develop and manage content.

Deliverables the project website will include:

- Ongoing hosting, development, and management of the website
- Subpages for county-specific plans
- Interactive virtual workshops and mapping
- Event and milestone schedules
- Online contact form

Task 1B.10 will be authorized under Part A, First Authorization.

1B.11. Comment response log from website comments (FHI) - The GPI Team will monitor, and log comments or queries received via the project website. Comments and questions will be forwarded to appropriate subject matter experts and team members for response or incorporation into plan documents.

Task 1B.11 will be authorized under Part A, First Authorization.

1B.12. Newsletter (Urban) - To maintain constant engagement and ensure a small feedback loop between the project team and its stakeholders, Urban will develop a newsletter that can be distributed bi-monthly. Stakeholders who are involved in the project will receive the newsletters along with those who choose to sign up for updates, this can include the general public.

Task 1B.12 will be authorized under Part A, First Authorization.

1B.13. Branding and style guide (FHI) - The GPI Team will work with the Project Leadership Team to develop project branding that aligns with existing SJTPO branding and values. The branding will be developed at the outset of the project to develop interest and create cohesive materials and project identity across county specific plans. This will also support building confidence and trust in in the project. The GPI Team has a solid understanding of design principles, color theory, and visual communication best practices to create effective branding. Our design philosophy for branding projects is that simpler is better. Yet we understand that on a project with diverse stakeholders, a variety of needs and viewpoints must be considered, and a logo may need to convey a range of ideas. The GPI Team will develop an initial set of four (4) branding options, including logo, tagline (if applicable), color palette, and fonts from which the Project Leadership Team can select and refine. Branding materials will be packaged into a Project Team style guide that will provide guidance on project visual materials from logo use to documents and presentations.

Task 1B.13 will be authorized under Part A, First Authorization.

1B.14. Translation and Interpretation Coordination (FHI) - Simultaneous interpretation will be provided upon request for up to four languages at public meetings. Key project documents and other print materials will be translated into up to four languages as appropriate. The total budget for translation and interpretation services will not exceed $15,000.

Task 1B.14 will be authorized under Part A, First Authorization.

TASK 2 - DOCUMENT AND RESOURCE REVIEW

GPI will lead this task. GPI will review the documents as indicated in the RFP. Because GPI developed the NJ 2020 SHSP and Regional Curve Inventory and Assessment we have intimate knowledge of these documents. The time to review these will be minimal. In relation to the NJ 2020 SHSP, GPI will identify goals, objectives, strategies and actions in the Action Plans that relate to county and municipal roads. This will be valuable information to know as LRSPs are developed. GPI will identify a listing of systemic safety countermeasures with appropriate conditions for use. GPI will also identify any possible safety research, recently completed, or applications/use of innovative strategies/countermeasures. GPI will prepare a technical memorandum which will summarize our review and note findings that may have an impact on the development of the LRSPs. If any information is identified specific to a county, it will be noted in the report. GPI will submit a draft document to the SJTPO for PSC review. GPI budgets for no more than two (2) rounds of comments from SJTPO and the PSC.

Task 2 services will be fully authorized under Part A, First Authorization.

TASK 3 - DATA COLLECTION

GPI will lead this task. GPI will be supported by Jacobs and Urban. The GPI Team will identify and compile the most impactful and available primary data elements (crash, roadway and demographic), in conjunction with close project stakeholder coordination, to assist in the development of a comprehensive local roadway safety plan.

3A. Crash Data: This effort will begin by utilizing our intimate knowledge and extensive experience in developing applications to visualize the most up to date NJDOT crash data and assist in performing analysis. The NJ Safety Voyager crash mapping application was developed by GPI, in conjunction with NJDOT and FHWA, and GPI continues to maintain and expand the safety tools. The GPI Team also utilizes and is familiar with the crash data from the National Highway Traffic Safety Administration (NHTSA) Fatality and Injury Reporting System Tool (FIRST)/Fatality Analysis Reporting System (FARS), which is a nationwide census that provides yearly data regarding fatal injuries suffered in motor vehicle traffic crashes.

As the GPI Team developed the NJ 2020 SHSP, the approach for crash data and safety analysis was to utilize the most recent, complete, and accurate nine years of crash data available, using a five-5-year rolling average for analysis. It is recommended that a similar approach be followed, utilizing the most recent 9 years of complete crash data (2012-2020) for the systemic safety analyses.

It should also be noted that beginning in 2019, New Jersey updated the police crash report (NJTR-1) to be consistent with the federally required injury classifications (Killed, Suspected Serious Injury, Suspected Minor Injury, Possible Injury, and No Apparent Injury). As a result of this change, injuries not previously attributed to the serious injury classification are now included. This change makes the five-year rolling average for Serious Injuries questionable until several years of history are compiled. We expect that to be somewhere near 2024/2025. Therefore, we recommended for the purposes of the LRSPs, considering the total number of crashes (irrespective of the injury classification) in addition to fatal and serious injury.

Currently, for the years 2012-2020 there are an average of 10.59% of non-geocoded crashes across the SJTPO region. The per County percentage of non-geocoded crashes can be found in the table below.

3B. Non-geocoded crashes: We will assess non-geocoded crashes in each of the counties to determine if they can be associated with particular crash attributes and the extent of any influence on potential emphasis areas if needed (See discussion in Task 5). Once the non-geocoded crashes are assessed we will discuss our overall crash data findings with the project stakeholders to determine which focus crash types should be prioritized for implementing safety. FHWA provides a list of potential risk factors where it is suggested that each State may want to examine their crash database to determine whether there is a problem.

Roadway Data: GPI is intimately familiar with the collection, organization, analysis and management of roadway data; specifically, the NJDOT Straight Line Diagram database (NJDOT SLD). GPI is currently the NJDOT SLD Data Steward who serves as the database administrator and maintenance consultant. The GPI Team performed an initial review of the roadway risk factors and identified data that is either readily available for analysis, or that will require additional efforts to acquire. We then leveraged our experience with previous safety roadway plans to prioritize the data collection needs that will allow for the most impactful safety recommendations. The table below identifies the recommended highest priority roadway risk factor attributes per jurisdiction and symbolizes availability.

Note: The actual roadway attributes collected will be based upon the detailed crash analysis for each County and not necessarily from the list of attributes listed in the table below.

	Attributes	County Roads				Local Roads	
		Atlantic	Cape May	Cumberland	Salem	Vineland	Other
Segments / Corridors	Bi-directional traffic volume	◖	◖	◖	◖	◖	◖
	Number of lanes	●	●	●	●	●	●
	Lane width	●	●	●	●	●	●
	Shoulder type	○	○	○	○	○	○
	Shoulder width	●	●	●	●	●	●
	Curvature	●	●	●	●	○	○
	Sidewalk presence	●	●	●	●	●	○
	Roadway Lighting	○	○	○	○	○	○
Intersections	Control type (signalized / unsignalized)	●	●	●	●	●	●
	Number of approaches	●	●	●	●	●	●
	Approach configurations (turn lanes, # through lanes)	○	○	○	○	○	○
	Total intersection approach width	○	○	○	○	○	○
	Intersection Lighting	○	○	○	○	○	○
	Crosswalk presence	○	○	○	○	○	○
	Major / minor pedestrian crossing distance	○	○	○	○	○	○
Both	Posted speed	●	●	●	●	●	●
	Access points	○	○	○	○	○	○
	Median presence / type	●	●	●	●	●	●
	Area type (urban / rural)	●	●	●	●	●	●

Legend

● Data Available ◖ Some Data Available ○ No data

Note: Not all available risk factors are in the above table. The data identified as available has not been validated for accuracy or quality, nor does GPI anticipate validating any existing available data.

	Attributes / Risk Factors	Assumed Data Gaps and Features to be Populated
Segments / Corridors	**Bi-directional traffic volume**	**Directional and Total AADT**
	Number of lanes	Total number of lanes
	Lane width	Average and Minimum width to nearest foot
	Shoulder type	**Right shoulder - paved, gravel, etc.**
	Shoulder width	Distance from edge line to edge of shoulder to nearest foot
	Curvature	**Presence - yes or no**
	Sidewalk presence	**Presence - one side or both, or none**
	Roadway Lighting	**Presence - yes or no**
Intersections	Control type (signalized / unsignalized)	Signalized or unsignalized
	Number of approaches	Total number of approach legs
	Approach configurations (turn lanes, # through lanes)	**Number of right, left and through lanes per leg**
	Total intersection approach width	**Total distance between edge of traveled way per leg to nearest foot**
	Intersection Lighting	**Presence - yes or no**
	Crosswalk presence	**Presence of painted crosswalk per leg - yes or no**
	Major / minor pedestrian crossing distance	**Same as Total intersection approach width**
Both	Posted speed	Speed limit
	Access points	**Total number access points**
	Median presence / type	Presence - yes or no Type - grass, painted, Jersey barrier, etc.
	Area type (urban / rural)	Urban or rural

Bold items to be captured where data gaps exist based upon the highest priority risk factors.
All other data to be obtained from existing available sources without capture.

While the existing NJDOT SLD and SJTPO data does cover a number of the highest priority attributes, there are still some attributes that will require additional data collection efforts. To effectively conduct the systemic analysis, the GPI Team approach recommends collecting, at a minimum, the attributes identified within the table as “Some data available” and “No data available”. Once the Team is able to coordinate more with the stakeholders to discuss any other data availability, then the data elements can be finalized.

Our approach to the data collection is to focus on data that would most benefit the stakeholders and support the systemic analysis. It involves utilizing all existing data and supplementing the missing data gaps based upon the highest priority risk factors listed in the table above.

The first and largest part of our missing data collection solution involves creating a GIS by locating and extracting attributes utilizing existing imagery. We would use available aerial and streetview imagery sources such as the 2013 and 2019 SJTPO streetview imagery, NJDOT aerial imagery, Google Maps, Bing Maps, and any other readily available imagery. The chosen source of collection for each missing attribute would be dependent upon the date and quality of the imagery. We would then implement the best data extraction solution based upon a combination of in-house advanced artificial intelligence (AI) technology and manual efforts. The missing attributes to be collected via existing imagery include shoulder type, sidewalk

presence, lighting, turn lanes, intersection approach width, crosswalk presence, pedestrian crossing distance and access points. We would group our collection attributes per intersection or segment/corridors to develop the most efficient and effective methods to capture the missing data. All collected data would be checked for quality and completeness. None of the data collection efforts include field visits to collect, check or validate any data. The accuracy of the missing data collected through this methodology will vary based upon the source from which the data was extracted. This accuracy is typically at the mapping grade level. GPI Team member Techniquest, Inc., will provide support for this task.

The second part of the solution includes programmatically utilizing the existing NJDOT Traffic Monitoring System traffic data count stations to identify roadway volumes and AADT for all types of roadway classes. The data will be utilized to provide bi-directional traffic volumes on county and local road segments where stations exist. The roadway segments that do not have station data will utilize the GPI-managed existing AADT flow guidelines that NJDOT is currently developing as part of the NJDOT Statewide AADT Dynamic Segmentation Map agreement. The guidelines will allow for segments similar in functional class, area and nature to adopt the values of adjacent surrounding stations.

The last part of our missing data solution involves the curvature data for the local roadways in the region. The collection of curve data begins by identifying the presence of curves, which can be performed by calculating the curvature from the geometry of the NJDOT roadway network file. More detailed curve data can be captured by utilizing a more advanced technology such as Rieker, Inc.'s Curve Advisory Reporting Service (CARS). CARS combines the use of an electronic version of a ball-bank indicator with an internal GPS, integrated software, and a tablet computer that automatically and accurately measures and records the radius, length and superelevation of each curve. Furthermore, this data is then used to calculate the safe curve advisory speed and sign placement to meet the 2009 MUTCD requirements.

GPI will create a data management plan that will identify how the data will be organized, stored and shared. All data will be stored in a geographic information system (GIS) and the data can be shared via a web portal, or ESRI ArcGIS Online. We anticipate utilizing a mixture of mainstream GIS technologies to support this effort. The Team anticipates discussing the project data and stakeholder needs to access and share this data before deciding on a solution. This GIS is not intended to be shared with the general public, only project and stakeholder members.

Demographic Data: Using NJ Safety Voyager, US Census and USEPA's EJSREEN, GPI will collect demographic data at the census block level as indicated in the RFP and consistent with the NJ 2020 SHSP efforts. GPI's experience in producing equity maps and development Equity analysis metrics and thresholds will be valuable in this effort. GPI will provide this information in map or other suitable format to support analysis and decision making. A report of summarizing equity data will be provided as an appendix to each LRSP.

Land Use Data: The GPI Team is very familiar with reviewing, organizing, and analyzing basic land use data for various safety applications. We have gathered and validated bus route and stops, schools and alcohol establishments for various projects and incorporated data layers into the NJ Safety Voyager Pedestrian Heatmap module, allowing users to analyze possible pedestrian and bicyclist crashes within a one-mile radius of a selected school or bus stop. GPI will create maps for each county utilizing the land use data already available in the Safety Voyager as well as other land use data as determined from the input of the stakeholders. Land use data maps supplemented with crash data maps will help in visualizing and identifying possible connections to crash data. This data will help in determining effective strategies for combating crashes in high-risk areas, and prioritizing areas for safety investment that will yield the most benefits.

Activities/Investments (Urban): Urban Engineers will gather policies, processes, programs, funding streams, projects, etc. at a regional, county, and municipal level that may have the potential to impact safety. This may include capital plans, maintenance logs, design guidance, etc. We will provide a foundation for this effort as we discuss the Safe Systems Approach at Regional Summit #1 and continue to address at the County Steering Committee (CSC) meetings. Ahead of CSC Round 1, we will obtain initial county and municipal documentation to the extent possible (policies, process, funding streams) that

can provide a basis for initial discussions on Safe Systems Assessment. We expect that discussions at CSC Round 1 will lead to additional data. We will identify projects advancing through the Statewide Transportation Improvement Program (STIP) or being funded through NJDOT's Local Aid programs. We will gather data from each county. At a regional or cross jurisdictional level, we will investigate safety initiatives led by the health, educational, and EMS sectors. Municipal data is expected to be somewhat limited and we will not gather from every municipality in each county. The goal of the Safe Systems Assessment is not to make recommendations for each and every municipality. It is to provide recommendations that municipalities can employ at their discretion. We will gather data from no more than five municipalities in each county that provide a reasonable representation of the municipalities in the county. We will consult with the SJTPO, the County Champion and the CSC for additional guidance. We will conduct some initial outreach to larger municipalities ahead of CSC Round 1 to gather data and discuss other available municipal data with the County Steering Committees. The GPI Team will compile a summary of activity and investment data collected along with the data set.

Data Collection deliverables will include a data summary report including all meeting documentation, an appendix of all existing and new data utilized for the effort, and a well-organized copy of all datasets.

Task 3 services will be authorized in its entirety under Part A, First Authorization.

TASK 4 - SAFE SYSTEM ASSESSMENT

Jacobs will lead the Safe Systems Assessment with support from the GPI Team. The GPI Team will conduct a Safe System Assessment of the SJTPO region, which centers on evaluating the alignment of the highest priority policies, process, and projects with the Safe System Approach. The following subtasks have been identified:

4A. Identify and Prioritize Review Documents - The Safe System Approach covers nearly the whole of the highway transportation realm. With four (4) counties and 68 municipalities within SJTPO, evaluating every policy, standard process, and project will not be feasible. Therefore, in Coordination with Task 2 efforts (led by other GPI team members), Jacobs will identify the policy, procedure and guidance documents that are most applicable for review under the Safe System Assessment. We anticipate these will be organized by the agencies they apply to and initially prioritized based on a regional, county, municipality hierarchy. Population will also be used to help prioritize municipal elements within each county. Once the identification and initial organization of applicable documents is complete, Jacobs will then prioritize and select up to 15 items (documents, procedures, or projects) for an in-depth Safe System Assessment. The prioritization will be based on the scope and impact each prospective item have on the region's safety program management practices.

4B. Develop Assessment Criteria and Scoring Matrix - The GPI Team will develop a matrix defining the qualitative assessment of how operational elements align with four of the five Safe System Elements and the six Safe Systems Principles. While specific criteria will be developed the following assessment of the elements and priorities summarize how the GPI team proposes to approach the criteria development.

The Six Safe System Principles:

1. **Death/Serious Injury is Unacceptable**. Evaluation of this principle will focus on weather crashes or personal injuries are being considered.
2. **Humans Make Mistakes**. This principle will consider how various documents and processes account for potential error.
3. **Humans are Vulnerable**. The transfer of kinetic energy and the human tolerance to crash impacts are one of the most important concepts within the Safe Systems Approach. This principle will help to understand to what extent vulnerability is considered.
4. **Responsibility is Shared**. This principle will determine to what extent is multi-agency and multijurisdictional cooperation considered or used in each article reviewed.

5. **Safety is Proactive**. It's understood and anticipated that everything cannot be proactive, and while the purpose of the principle is to promote proactive efforts, the criteria will be developed to determine not only the proactive efforts, but also how reactive efforts are framed as part of a comprehensive safety program.
6. **Redundancy is Crucial**. This principle will consider how financial or other barriers dictate the degree to which a variety of safety treatment, decisions, and policies are used together. The principle is not that every measure should be taken, but that holistic and complimentary steps should be taken together rather than continuing with the mindset to pick "the one" solution to any problem.

The Five Safe Systems Elements:

1. **Safe Road Users**. Evaluation of this element will consider how all road users, including those who walk, bike, drive, ride transit, and travel by other modes, are considered in the guidance, requirements, or processes being evaluated.
2. **Safe Vehicles**. This project and the SJTPO Safe System Assessment will not consider vehicle technology or the safe vehicles element.
3. **Safe Speeds**. Evaluation of this element will focus on the regulation (or lack thereof) of speed from both policy, design, and environmental perspective.
4. **Safe Roads**. At its core, this element defines how design decisions are being made and needs to be evaluated as a philosophy as much as a point-by-point assessment of standards. The goal is not to change standards, but to change the mindset behind how standards are established. This element could broadly apply to dozens if not hundreds of documents in the region and as such needs to be considered in the prioritization in the previous subtask.
5. **Post-Crash Care**. This element will likely not apply to most items reviewed, though care will be taken to understand existing operating procedures as it relates to post-crash care.

Each item reviewed will be rated for alignment with the Safe System Approach Elements and Priorities as either:

- Aligns Fully
- Partial Alignment
- Conflicts
- Does Not Apply – The operational element being rated is too specific to align with the Safe System Element (e.g., Post-Crash Care does not align with an ADA compliance policy).

The scoring matrix will identify the criteria for full alignment, partial alignment, and conflicts. The matrix will be reviewed with SJTPO and the counties prior to conducting any review. The GPI Team will identify potential barriers to full implementation for discussion at County Steering Committee Meetings. An overview of the scoring matrix and how it relates to the Safe System Principles and Elements is presented in Figure 6.

4C. Conduct Scoring and Recommendations - Jacobs will identify for each of the 15 identified items for review, the scoring, barriers, and recommendations for steps to full alignment with the Safe Systems Approach as outlined by FHWA.

4D. Identify Training - Based on the identified gaps in the 15 reviewed documents and the Safety Systems Assessment, Jacobs will identify the specific training needs for the region. While a high-level Safe Systems Approach training is anticipated, the goal of this subtask will be to identify additional training opportunities for the Safety System Elements and Priorities included in the scoring matrix. An overview of available existing training will be included, though the expectation is that specific training will need to be developed under Task 8 – Ongoing Support, or through other projects/efforts. This task does not include the development of any training or training materials. Training recommendations will be documented in the Safe System Assessment Report.

4E. Safe System Assessment Report - The GPI Team will develop a Safe System Assessment report for all operational elements analyzed. It is anticipated that several operational elements will span the region and recommendations/implementation will need to be broadly considered. The GPI Team will provide a draft of the Report to

receive comments from SJTPO, NJDOT, and each County. The comments will be reviewed and addressed by the GPI Team. We are assuming three rounds of review, comments, and edits will be needed to develop the Final Draft Report. The GPI Team will provide the final Report in PDF and editable Microsoft Word format. Six total print copies will be provided to each county (one per county, four total), SJTPO (one copy), and NJDOT (one copy).

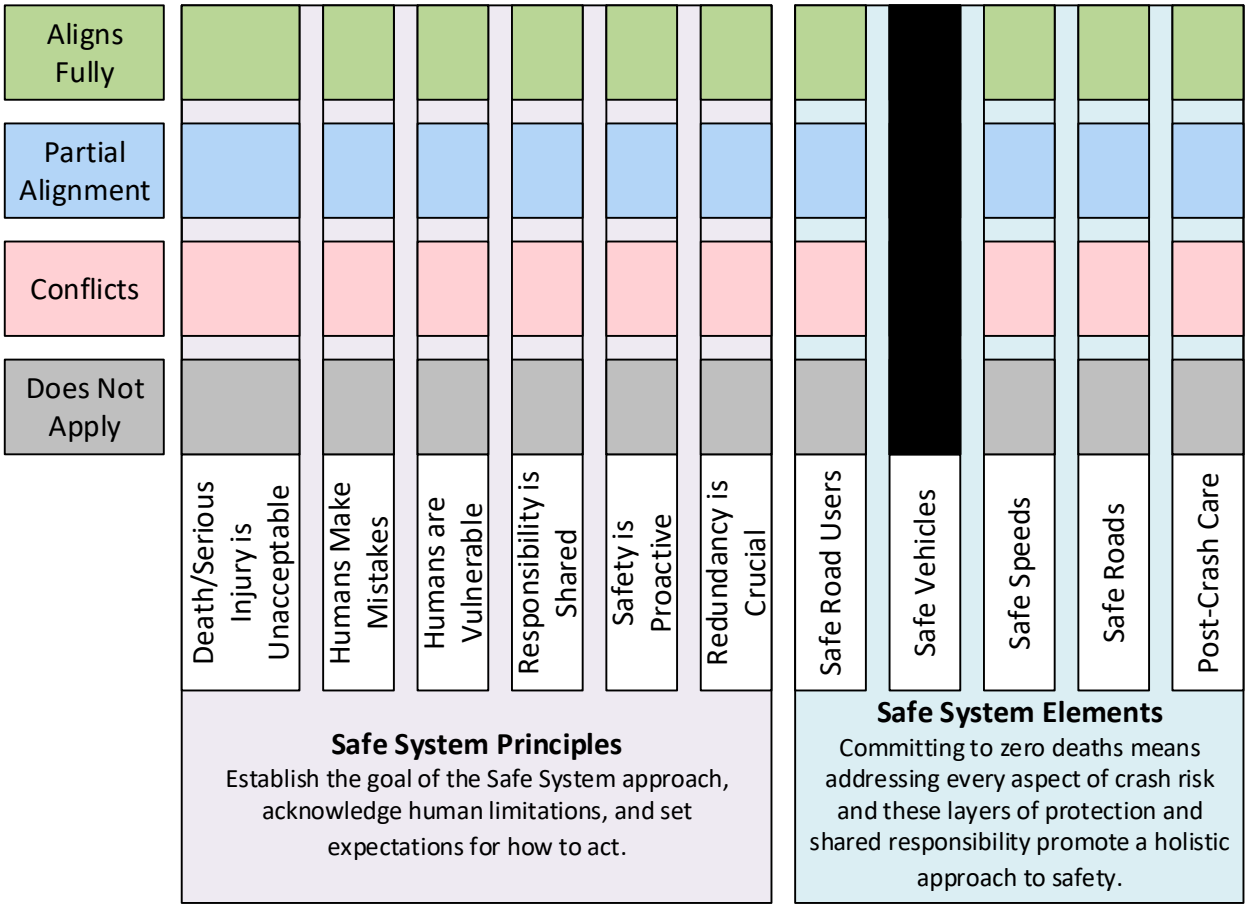


Figure 6. Scoring Matrix for Safe System Principles and Elements

Task 4 services will be authorized in their entirety under Part A, First Authorization.

TASK 5 - SYSTEM EVALUATION

Jacobs will lead this task with support from the GPI Team.

5A. Emphasis Area Identification and Selection – Jacobs will disaggregate the most recent five years of crashes by emphasis areas for each county and the SJTPO region. Emphasis areas will be consistent with emphasis areas addressed by the AASHTO Strategic Highway Safety Plan and those considered during the development of the most recent New Jersey SHSP emphasis areas. Emphasis area analysis will compare county-specific fatal and serious injury crash trends to statewide trends and include specific annual trends for fatal and serious injury crashes by emphasis area to help in the selection of each Counties individual emphasis areas. This emphasis area analysis will be presented at the first county workshops, and again during the first round of county steering committee meetings. The GPI team will document the data analyses, assumptions, and potential issues in a technical memo and in a meeting with SJTPO. Each county will have the opportunity to review the data and vote on emphasis areas for their plan. While the data definitions from the SHSP will be used to break down crash data, counties will be able to select the emphasis areas critical to them even if that emphasis area was not

selected for the 2020 SHSP. Ideally, the emphasis areas will be confirmed in person; however, online polls may be used to supplement in person voting for hybrid meeting/virtual attendees. The GPI team recommends limiting each county to three or four emphasis areas to underscore the need to prioritize and to keep the plans and action items manageable. Selection of County emphasis areas will be conducted during the first County steering committee meetings. The emphasis areas and selection process will be documented in a technical memo and through a meeting with SJTPO.

5B. Indicators of Potential Disadvantage (IPD) – Jacobs will analyze the relationship between crash patterns and demographics data collected by the GPI team in Task 2. Jacobs will conduct an initial evaluation of demographic data and the most recent five years crashes to develop preliminary recommendations on potential methods/tools to analyze the relationships between the demographic data and crashes down to the crash type/emphasis area level. Prior to conducting the analysis, the GPI team will meet with SJTPO to propose and discuss the statistical/analytical method to be used. The proposed method will be data driven, but the exact method will have to be based on an initial data analysis to understand what type of analysis the data will allow for. Upon determination of the analysis method, Jacobs will analyze the demographic data by crash type and emphasis area to understand what demographic data elements have quantitative relationships with crash overrepresentation. The results of the analysis will be documented in an Analysis of Crash Equity Report and delivered to SJTPO and other agencies (NJDOT, FHWA, etc.) as required.

5C. General Crash Analysis and Mapping – Using the most recent 10 years of crash data, Jacobs will develop summary charts and tables identifying annual trends in fatal and serious injury crashes, by crash type, and emphasis area. Crash analyses will be developed individually for each county with a summary PowerPoint and full Excel files submitted for use throughout the planning process. Jacobs will also develop up to 4 crash maps per county (for a total of 16 maps) depicting crash hotspot and other geospatial trends as identified in the data analysis or needed for the completion of County plans. Maps will be published in PDF formats with associated data in ArcGIS map packages delivered to SJTPO.

5D. Investigation of Non-Geocoded Crashes – Jacobs will evaluate the non-geocoded crashes to identify any crash type or emphasis area (selected or otherwise) that has an overrepresentation of non- geocoded crashes. Recommendations on impacts of non-geocoded crashes with mitigation recommendations will be included in a technical memo to SJTPO. However, unless there is strong evidence to suggest a statistical impact of the missing spatial information, the GPI Team recommends moving forward without the non-geocoded crashes. Manually reviewing crash reports to obtain location information is not a sustainable practice. While it would benefit this cycle of analysis and planning, it would either become a significant factor in updates, or force a change in the process if future cycles do not replicate the additional investigation. Considerations as to the impacts of non-geocoded crashes will be limited to fatal and serious injury crashes consistent with national and federal reporting and best practice guidelines.

5E. Systemic Analysis and Screening – The purpose of the systemic approach to crash reductions is to be a complimentary tool to traditional hotspot analyses. Systemic analysis and systemic project selection are ideal for LRSPs as the process is far less complicated than hotspot analysis, is excellent at identifying at-risk locations on low volume roads, and has been proven to be highly effective at the county level. There are several options for developing systemic analyses; however, the GPI Team proposes following the process outlined in the FHWA Systemic Safety Project Selection Tool. Jacobs has successfully implemented the process on thousands of sites supporting a range of planning efforts across the country. The

following steps will be used to complete the analysis. Similar to LRSP development, the systemic process is cyclical as shown in the following figure. The core of the SJTPO Countywide LRSP project focuses on Element 1 of the process.

1. **Identify Focus Crash Types** – The process is completed for each identified crash type. The GPI Team will work with each County Steering Committee to select up to two focus crash types per county. Each focus crash type will result in its own unique systemic analysis resulting in eight (8) unique systemic analyses.

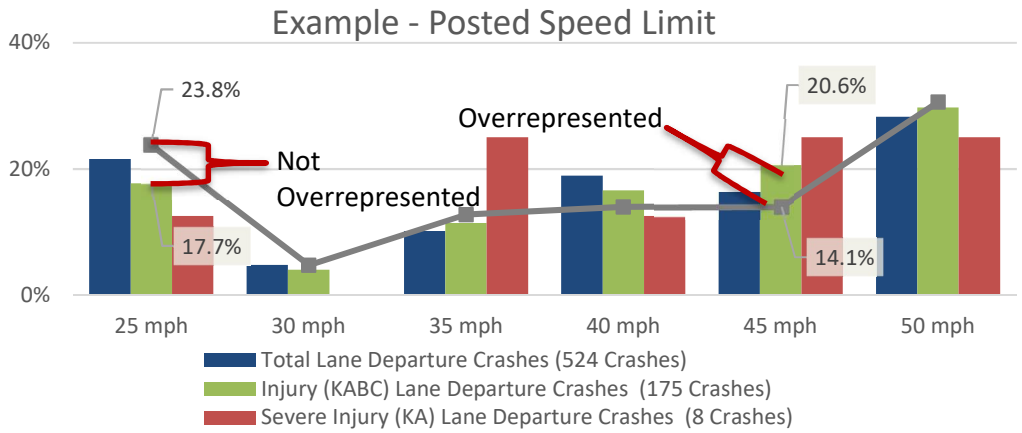
2. **Identify Focus Facilities** – Focus facilities can be any meaningful subset of the study network. The intention of selecting focus facilities is to narrow the expanse of supplemental data collection and analysis. For example, if the vast majority of roadway departure fatal and serious injury crashes are occurring on high-speed rural two-lane roads, it would not likely be effective to investigate four-lane low speed urban roads. Decisions should be driven by available resources and follow what the data indicate as a priority. The selection of focus facilities is a balance. If the facility selection becomes too narrow, the analysis turns into a hotspot analysis, rather than a proactive systemic analysis. If they become too broad, there is considerable additional expense and time required to analyze the network. Focus facilities will be identified individually for each focus crash type and selected in coordination with each county individually.

Systemic Safety Framework for Project Selection

For each focus crash type, Jacobs will identify subsets of the countywide local roadway networks (those roads not maintained by NJDOT) where either larger proportion of focus crashes are happening or where focus crashes are overrepresented based on applicable measures of exposure. This subtask will result in eight focus networks.

The systemic process will require that we cross reference both crash data and roadway inventory data geospatially and in the same coordinate system. Jacobs will join the previously defined crash and roadway data to identify the location and distribution of crashes for each focus crash type. Gaps in essential data attributes identified during the performance of Task 3.1 will be identified for potential resolution as part of the data collection during the Data Collection task (Task 3.2). Data collection as to supplement the identified gaps will be performed as part of the identification of risk factors and risk assessment under Task 3.2. Crash data and roadway/attribute data will be combined for the identification and evaluation of risk factors for each focus crash type, on each focus network.

3. **Conduct Risk Factor Analysis** – There are several valid approaches to identifying risk factors. While the process needs to be data driven, there is no one prescribed method for determining risk factors. The GPI Team's experience has shown that using descriptive statistics and data visualizations allows for a range of risk factors that can be tailored based on local experience and knowledge. An example of the graphics proposed for use in the systemic analyses is shown below. Use of statistical models are often rigid, black box, and limited in the number of risk factors that are



statistically meaningful at the county level. A reduced number of risk factors impacts the prioritization of study networks.

Risk factor analysis requires the examination of facilities (road segments, intersections, etc.) rather than individual crashes. Roadway attribute information and target crash information are associated with features and then the relative safety performance of those features is evaluated on an attribute-by-attribute basis. The example above compares the overrepresentation of Injury (KABC) Lane Departure Crashes in SJTPO by posted speed limit to the relative number of curves with the posted speed limit. The presence, or absence, of a roadway feature was classified as a risk factor when the proportion of total injury crashes related to a specific feature exceeded the proportion of curves. The degree of overrepresentation was defined as the difference between the portion of fatal and injury crashes compared to the proportion of curve inventory. Charts like this one help to initially visualize overrepresentation of risk factors across the analysis network.

Guided by resources such as the Highway Safety Manual (HSM) and National Cooperative highway Research Program (NCHRP) 500 Series Reports, the GPI Team will review the data for each attribute to identify initial risk factors. The initial risk factors will be discussed with appropriate county representation and adjusted based on local input prior to finalization.

Jacobs will define risk factors for each focus crash type, on each focus network by documenting the most common characteristics (as identified in the crash data) for each focus crash type with each focus network. Based on resources such as the Highway Safety Manual (HSM) and National Cooperative highway Research Program (NCHRP) 500 Series Reports, Jacobs will identify risk factors commonly associated with each specific focus crash type. Jacobs will use descriptive data analysis through charts and tables to develop preliminary risk factor recommendations. Jacobs will develop eight (8) lists of preliminary risk factors for the focus networks (2 per county for a total of 8) for presentation by the GPI team to SJTPO and the County Steering Committees. SJTPO and the County Steering Committees will provide input and confirm the risk factors that should be used as part of the systemic review of their facilities for locations at risk for focus crashes. Upon concurrence, Jacobs will develop eight (8) final list of risk factors (one for each focus network) that will serve as the basis for the subsequent risk review.

4. **Screen the Network for Risk factors** – Upon concurrence of the risk factors, the GPI Team will perform the systemic review of the focus facilities to confirm the location and number of risk factors present. The systemic analysis method

is based on understanding the characteristics and features of crash locations and then screening to find locations with similar characteristics regardless of crash history. The team will present the results in a tabular summary identifying the risk factors and the locations where they are identified within each network. The more risk factors present at any location, the greater the potential for a focus crash to occur. A priority listing of locations within each of the eight networks, with identified risk factors in spreadsheet format based on the number of risk factors present will be developed as well as a .KMZ with the results of each completed analysis.

5. **Identify Countermeasures** – Projects are typically aimed at low cost proven effective countermeasures as many sites where treatments installed will not have prior crashes. The emphasis of systemic project implantation is be proactive. For each focus crash type, a menu of infrastructure and behavioral countermeasures will be developed based on information contained in the Highway Safety Manual, National Cooperative highway Research Program NCHRP 500 Series Reports, the National Highway Traffic Safety Association (NHTSA) Countermeasures That Work, and the Federal Highway Administration (FHWA) Proven Safety Countermeasures that are consistent with the NJ Strategic Highway Safety Plan (SHSP). The lists will include a brief description, a planning level estimate of cost to implement, and the anticipated effectiveness. Draft lists will be developed and submitted to the applicable counties, SJTPO, and other agencies (NJDOT, FHWA, etc.) as required.

The entire system analysis will be documented in a single summary report which will include a detailed explanation of the process and summary results for each county. The detailed results of each analysis will be included in separate appendices. Developing the report in this manner will allow for one central repository documenting how the analysis was conducted during the planning cycle and will eliminate the need to explain the process multiple times through, while still resulting in appendices documenting the results in a stand-alone fashion.

5F. Memorandum on "Balanced" Investment - The GPI Team will use the results of the systemic analyses to understand the potential for systemwide crash reductions. The results will be reviewed to understand gaps in the systemic recommendations and where supplemental site specific (aka hotspot) treatments will result in a comprehensive approach to reducing fatal and serious injuries. The analysis will focus on locations with a history of crashes that do not receive high risk ratings or systemic recommendations. Similarly, the top 10 high-crash locations for each analysis receiving systemic treatment will be reviewed to understand if site specific higher cost treatments (not included in the menu of systemic countermeasures) require further investigation outside of the LRSP project development process. The results of the analysis will be documented in a technical memo.

Task 5 services will be authorized in their entirety under Part A, First Authorization.

TASK 6 - PROJECT IDENTIFICATION AND INVESTMENT STRATEGY

Project Identification – The objective of this step is to develop a list of high-priority safety projects which may include dedicated safety-focused projects as well as improvements that can be implemented as part of another construction or maintenance project, or as part of routine maintenance. The GPI Team will create a decision process (crash tree or other acceptable method) to identify appropriate countermeasures for high-priority locations or for widespread implementation. The GPI Team will apply the decision process to candidate locations. For each location, the GPI Team develop a site description, countermeasure(s) selected, estimate implementation cost and a site score associated with its safety risk.

Investment Strategy – The GPI Team will prepare up to three (3) investment strategy options for each county based on expected funding streams, planned projects, expected crash reduction, public involvement requirements, environmental and other constraints, and other issues. These options will be discussed with each County Steering Committee for their consideration and selection of an investment strategy that is appropriate for their county. An investment strategy map will be developed for each county.

Task 6 will be authorized under Part B, Second Authorization.

TASK 7 - DEVELOPMENT OF FINAL PLANS

GPI will prepare an initial outline(s) for the LRSPs early in the development process for review and comment by the Program Support Committee (PSC) with the understanding that the same report outline will be used by all counties. We encourage that the body of the LRSPs should be kept to one hundred (100) pages or less. The LRSP will include all elements as noted in the RFP and include high-quality graphics. Appendices will provide include all supporting information. As a means to streamline review, GPI may draft portions of the report and submit for PSC review during the plan development process to obtain initial PSC comments. GPI will prepare a stand-alone Executive Summary document for each plan, no more than 25 pages in length. GPI will also prepare a stand-alone document that provides a menu of countermeasures for the region. All documents will be provided to SJTPO in Word and pdf format. GPI's quality management approach provides for an independent reviewer to review all formal reports and submissions. GPI's budget provides for a maximum of four (4) rounds of comments from the Program Support Committee or other county stakeholders as identified by the County Champions and PSC before being presented to County Commissions. We encourage limiting multiple commenting opportunities to the extent possible as that will delay plan completion. GPI will prepare any materials required for County Commission presentations. GPI budgets for a fifth round of revisions to the LRSPs to address any County Commission comments. Report revisions can consume a lot of the project budget if not controlled. A maximum of eight (8) printed copies will be provided for distribution to SJTPO, counties and NJDOT. GPI will provide electronic files, map files and participant contact information to SJTPO.

Task 7 will be authorized under Part B, Second Authorization.

TASK 8 – ONGOING SUPPORT

The GPI Team will be available to provide support to the County Steering Committees as they advance implementation of their LRSPs. Understanding that the State and MPO have no formal authority over the counties, the work of SJTPO and the GPI Team must provide value from the county stakeholders' perspectives and not become onerous. The GPI Team will prepare for and facilitate quarterly meetings with each county steering committee. GPI provides for a maximum of four (4) meetings with each county steering committee during implementation year 1, a total of 16 meetings. Of the 16 meetings, eight (8) are anticipated to be in person. Meeting materials and meeting summaries will be prepared. No county workshops are not anticipated. Four focus team meetings are anticipated. Two focus team meetings are anticipated to be in person. No elected officials group meetings are anticipated.

The GPI Team will conduct training or arrange for training related to Safe Systems Assessment or other LRSP related topics. GPI provides for a maximum of two (2) training sessions. This includes identifying participants, scheduling training sessions, venues, and establishing the training agenda, trainers, and materials. GPI recommends virtual training sessions to the extent possible, however we are budgeting for in-person/virtual hybrid training sessions. While there are some benefits of in-person training, virtual training sessions can be developed more quickly, and trainers may be more available. Virtual sessions may garner more attendance and can be viewed live as well as posted for future reference at any time.

As a part of ongoing support, Jacobs will develop and deliver a three-hour training course on the Safe System Approach for SJTPO. Development and delivery of the courses are expected to be completed by the end of calendar year 2024. Jacobs will develop a three-hour course including the overview of the Safe Systems approach content will be included addressing the gaps and needs identified in the safe systems assessment. The course will be developed as an outline in Word with slide content and speaker notes and will be submitted for review by SJTPO and other agencies (NJDOT, FHWA, etc.) as required. Upon concurrence of the course outline, a draft presentation with speaker notes will be submitted to SJTPO and other agencies (NJDOT, FHWA, etc.) as required. Upon resolution of review comments, the final training presentation will be submitted to SJTPO. Jacobs will conduct two virtual training session for the developed course as a part of ongoing support.

Each session will be conducted on the virtual platform preferred by SJTPO (Teams, Go to Meeting, etc.) with the assumption that there will be no cost in software or access subscriptions to the GPI team.

GPI will provide assistance to counties and municipalities in development of grant applications for projects that include safety countermeasures. GPI assumes supporting a maximum of two (2) applications per county.

Task 8 will be authorized under Part C, Third Authorization.

LIST AND DESCRIPTION OF DELIVERABLES

- Project Coordination
  - Biweekly status emails
  - Summaries of coordination meetings
  - Invoices
  - Schedule development and management
- Project Outreach
  - Meeting agendas, materials, promotional content, background information, presentations, and summaries
  - Website content
  - Social media content
- Document and Resource Review
  - Memo/report summarizing review of documents and resources
- Data Collection
  - Data Summary
  - Data Sets
- Safe Systems Assessment
  - Safe System Assessment Report
- System Evaluation
  - Safety Emphasis Area Memo/Report
  - Data/Mapping relating to Indicators of Potential Disadvantage
  - Crash Equity Analysis Report (Appendix to LRSPs)
  - Summaries/mapping of historic crashes for most recent available years
  - Assessment of non-geocoded crashes report
  - Updated dataset of non-geocoded crashes if required
  - Systemic analysis report and menu of systemic countermeasures
  - Memorandum of balanced investment
- Project identification and investment strategy
  - Investment strategy report
  - Investment strategy maps
- Final LRSPs
  - Final LRSPs
  - Executive Summary Document
  - Collection of files
- Ongoing Support
  - Meeting agendas, materials, promotional content, background information, presentations and meeting summaries
  - Safe System Training
  - Funding application support

Greenman-Pedersen, Inc. (GPI)
SJTPO Countywide Local Road Safety Plans
Cost Proposal - June 1, 2022

Staff Name	Title	Hours per Task											Total Hours	Direct Labor Rate	Total Labor Costs (including OH and 10% Fee)	Direct Expenses Auth A	Direct Expenses Auth B
		Coordination and Outreach	Coordination and Outreach	Document and Resource Review	Data Collection	Data Proxies	Safe Systems Assessment	System Evaluation	System Evaluation	Identification / Investment Strategy	Development of Final Plans	Ongoing Support					
		1 Part A	1 Part B	2	3.1	3.2	4	5 Part A	5 Part B	6	7	8					
		Part A Auth	Part B Auth	Part A Auth	Part A Auth	Part A Auth	Part A Auth	Part A Auth	Part B Auth	Part B Auth	Part B Auth	Part C Auth					
GPI (OH Rate - 164.15%)																	
	Project Manager	100	733	1	4	0	4	0	5	3	52	98	1000				
	QA/QC Manager	0	0	0	36	132	0	0	0	0	28	0	196				
	Senior Technician	0	0	0	50	144	0	0	0	0	0	0	194				
	Project Engineer	80	290	2	0	0	4	15	9	28	204	134	766				
	Project Engineer	88	284	6	180	440	36			0	144	140	1318				
	Senior Engineer	200	514	36	40	0	72	20	86	56	280	236	1540				
	Senior Technician		0	0	0	40	0			0	0	0	40				
	Technician		0	0	36	1,700	0			0	0	0	1736				
	Technician	0	0	0	240	1,380	0	16	16	32	0	0	1684				
	Junior Technician		0	0	104	860	0			0	0	0	964				
	Technician		0	0	0	900	0			0	0	0	900				
	Technician		0	0	0	900	0			0	0	0	900				
	Admin/CL	0	0	0	16	0	8	8	40	0	76	0	148				
	GPI Subtotal:	468	1,821	45	706	6,496	124	59	169	119	784	608	**11399**		**$ 1,743,692.68**		
	Direct Expenses:													*Mileage and Travel:*	$ 15,999.60	$ 5,999.59	$ 10,000.01
														Reiker:	$ 75,500.00	$ 27,000.00	$ 48,500.00
														Printing, Reproduction and Postage:	$ 2,500.00	$ -	$ 2,500.00
														GPI Total:	**$ 1,837,692.28**		
Jacobs (OH Rate - 109.34%)																	
	Senior Technical Expert	82	46	0	20	0	36	16	40	0	24	40	304				
	Jacobs Project Manager	244	208	0	72	0	114	152	240	24	60	64	1178				
	Engineer	0	0	0	52	0	194	80	220	32	0	40	618				
	Jr. Engineer 2	0	0	0	40	0	0	156	0	0	0	36	232				
	Jr. Engineer 2	0	0	0	190	0	0	0	232	64	0	0	486				
	Jr. Engineer 1	0	0	0	566	0	38	64	88	64	0	60	880				
	Jr. Engineer 1	54	18	0	284	0	160	164	264	64	0	60	1068				
	Document Specialist	0	0	0	0	0	44	2	90	0	0	24	160				
	Jacobs Subtotal:	380	272	0	1224	0	586	634	1174	248	84	324	**4926**		**$ 624,750.52**		
	Direct Expenses:													*Mileage and Travel:*	$ 23,422.50	$ 23,422.50	$ -
														Printing, Reproduction and Postage:	$ 400.00	$ 400.00	$ -
														Jacobs Total:	**$ 648,573.02**		
Urban Engineers (OH Rate - 140.59%)																	
	Planner	500	600	0	200	0	40	40	0	40	200	160	1780				
	Department Manager	60	40	0	16	0	4	4	0	4	16	16	160				
	EIT	100	100	0	40	0	0	0	0	0	0	40	280				
	Engineer	100	100	0	40	0	0	0	0	0	40	0	280				
	Urban Engineers Subtotal:	760	840	0	296	0	44	44	0	44	256	216	**2500**		**$ 280,538.00**		
	Direct Expenses:													*Mileage and Travel:*	$ 2,500.00	$ 1,000.00	$ 1,500.00
														Venue rental:	$ 24,000.00	$ 24,000.00	$ -
														Printing, Reproduction:	$ 2,500.00	$ 2,500.00	$ -
														Urban Engineers Total:	**$ 309,538.00**		
FHI Studio (OH Rate - 156.98%)																	
	Senior Facilitator	272	136	0	0	0	0	0	0	0	0	80	488				
	Outreach Specialist	120	40	0	0	0	0	0	0	0	0	40	200				
	Senior Planner	380	0	0	0	0	0	0	0	0	0	80	460				
	Visual Comm. Specialist	100	0	0	0	0	0	0	0	0	0	20	120				
	IT Manager	300	0	0	0	0	0	0	0	0	0	80	380				
	FHI Studio Subtotal:	1172	176	0	0	0	0	0	0	0	0	300	**1648**		**$ 253,371.00**		
	Direct Expenses:													*Mileage and Travel:*	$ 4,500.00	$ 4,500.00	$ -
														Printing, Reproduction and Postage:	$ 1,000.00	$ 1,000.00	$ -
														Translation / Interpretation:	$ 15,000.00	$ 15,000.00	$ -
														Website:	$ 1,500.00	$ 1,500.00	$ -
														FHI Studio Total:	**$ 275,371.00**		
Techniquest (OH Rate - 176.48%)																	
	Techician	0	0	0	0	1000	0	0	0	0	0	0	1000				
	Technician					1000							1000				
	Senior Technician					400							400				
	Senior Technician					400							400				
	Techniquest Subtotal:	0	0	0	0	2800	0	0	0	0	0	0	**2800**		**$ 210,152.00**		
	Direct Expenses:													*None:*	$ -	$ -	$ -
														Techiquest Total:	**$ 210,152.00**		
														Total Labor Costs (including OH and Fee (10%)):	**$ 3,112,504.20**		
														Total Direct Expenses:	**$ 168,822.10**	**$ 106,322.09**	**$ 62,500.01**
														Grand Total Cost:	**$ 3,281,326.30**		

Greenman-Pedersen, Inc. (GPI)

SJTPO Countywide Local Road Safety Plans

Cost Proposal - June 1, 2022

Staffing Hours and Cost per Task *(not including direct expenses)*

Task No.	Task Name	Hours	Labor Costs
1	Coordination and Outreach - Part A Auth	2,780	$ 419,930.32
	Coordination and Outreach - Part B Auth	3,109	$ 572,136.84
2	Document and Resource Review - Part A Auth	45	$ 7,824.90
3.1	Data Collection - Part A Auth	2,226	$ 259,096.04
3.2	Data Proxies - Part A Auth	9,296	$ 1,007,742.68
4	Safe System Assessment - Part A Auth	754	$ 105,326.64
5	System Evaluation - Part A Auth	737	$ 93,473.33
	System Evaluation - Part B Auth	1,343	$ 171,468.09
6	Project Identification and Investment Strategy - Part B Auth	411	$ 50,281.74
7	Development of Final Plans - Part B Auth	1,124	$ 190,598.32
8	Ongoing Support - Part C Auth (See note below)	1,448	$ 234,625.00
	Total Hours / Cost:	23,273	$ 3,112,503.90

Note: Subtracted $0.30 from Labor on Task 8 total above to round Part C authorization amount to whole dollar. Therefore, Total Labor Cost here is $0.30 less than Total Labor on Detail Spreadsheet.

Proposed Work Package Authorization

	Hours	Direct Expenses	Labor Cost	Total Authorization	DBE/ESBE	DBE/ESBE %
Part A Total	15,838	$106,322.09	$1,893,393.91	$1,999,716.00	$405,957.40	20.30%
Part B Total	5,987	$62,500.01	$984,484.99	$1,046,985.00	$33,423.20	3.19%
Part C Total	1,448	$0.00	$234,625.00	$234,625.00	$46,142.40	19.67%
TOTAL	23,273	$168,822.10	$3,112,503.90	$3,281,326.00	$485,523.00	14.80%

SJTPO Countywide Local Road Safety Plans
GPI Team Staff Availability
Revised June 1, 2022

Key Staff	Project Commitments	Percent of Time Committed	Percent of Time Available
GPI			
Project Manager	*Haddon Avenue PE/FD*	*20%*	*35%*
Dave Kuhn	*Mt. Ephraim Avenue PE/FD*	*20%*	
	Hudson County Truck Route Study	*15%*	
	Vermont AOT TAMP Update	*5%*	
	TAP and SRTS Design Assistance Coordination	*5%*	
Project Manager	*NJDOT General Engineering Services*	*10%*	*75%*
Bernard Boerchers	*NJTPA 2016-2017 Local Safety Projects A1, A2, A3*	*10%*	
	NJTPA Hudson County Local Concept Development	*5%*	
Senior Technician	*NJDOT Traffic Monitoring System Data Collection, South Jersey*	*35%*	*30%*
Janie Tubito	*NJDOT Statewide NJ Roadway Newtork Linear Referencing Improvements*	*25%*	
	NJDOT Statewide AADT Dynamic Segmentation Map	*10%*	
Project Engineer	*NJDOT HSIP Project Development and Support*	*40%*	*35%*
Julia Steponanko	*NJTPA 2016-2017 Local Safety Projects A1, A2, A3*	*10%*	
	NJTPA Hudson County Local Concept Development	*5%*	
	DVRPC Burlington County LCD	*10%*	
Project Engineer ***Pending Hire***	*Various NJDOT Projects*	*60%*	*40%*
Engineer	*NJDOT HSIP Project Development and Support*	*40%*	*45%*
Kruti Barot	*NJTPA 2016-2017 Local Safety Projects A1, A2, A3*	*15%*	
Senior Technician	*NJTA Hudson County Extension*	*25%*	*20%*
Joseph DiLauri	*Hudson County Truck Study*	*15%*	
	Various Other Projects	*40%*	
Technician	*NJDOT Traffic Monitoring System Data Collection, South Jersey*	*40%*	*50%*
John Thieke	*Other Various Projects*	*10%*	
Technician	*NJDOT Traffic Monitoring System Data Collection, South Jersey*	*40%*	50%
Romesh Radhakrishnan	*Other Various Projects*	*10%*	
Junior Technician	*NJDOT Traffic Monitoring System Data Collection, South Jersey*	*30%*	*35%*
Katelyn Moran	*NJDOT Statewide NJ Roadway Newtork Linear Referencing Improvements*	*25%*	
	Other Various Projects	*10%*	
Junior Technician ***Juan Gomez***	*Other Various Projects*	*50%*	*50%*
Junior Technician ***Pat Keating***	*Other Various Projects*	*50%*	*50%*
Jacobs			
Transportation Engineer/Project	*Ohio DOT Support Services HSIP*	*10%*	*50%*
Manager	*Ohio DOT Statewide Safety Studies*	*5%*	
Alex Maistros	*Missouri DOT St Louis District Design-Build Safety*	*15%*	
	New Jersey HSIP Project Development and Support	*5%*	
	City of Castle Pines Local Road Safety Plan	*15%*	
Principle Safety Specialist/Senior	*Iowa US-34 and IA-150 PEL Studies*	*15%*	*30%*
Technical Expert	*New Jersey HSIP Project Development and Support*	*20%*	
Cindy Yerkey	*New Jersey Regional Curve Inventory and Safety Assessment*	*15%*	
	Ohio DOT Statewide Safety Studies	*5%*	
	Missouri DOT St Louis District Design-Build Safety	*15%*	
Engineer	*TETC MBUF Phase 4*	*25%*	*20%*
Will Holik	*New Jersey HSIP Project Development and Support*	*25%*	
	New Jersey Regional Curve Inventory and Safety Assessment	*10%*	
	Ohio DOT Statewide Safety Studies	*15%*	
	Ohio DOT Safety Support	*5%*	
Junior Engineer 2	*AASHTO Technical Assistance for the Development of HSM2*	*10%*	*40%*
Tariq Shihadah	*Missouri DOT St Louis District Design-Build Safety*	*20%*	
	Illinois DOT Safety Program	*20%*	
	Village of Flossmoor Local Road Safety Plan	*10%*	
Urban			
Planner	*Various NJDOT Projects*	*15%*	*75%*
Daniel Hutton	*Various PennDOT & City of Philadelphia Projects*	*10%*	
Department Manager	*Various NJDOT Projects*	*50%*	*25%*
Scott Diehl	*NJTPA LSEAP Projects*	*25%*	
Engineer ***Antonia Iaconelli***	*Various NJDOT Projects*	*50%*	*50%*
FHI			
Regional Community Engagement	*Hudson County Freight Study*	*10%*	*60%*
Manager	*MBTA Public Outreach*	*10%*	
Ryan Walsh	*TCRP - Virtual Engagement for Transit*	*5%*	
	Red Bank Master Plan	*15%*	
Director of Community	*CDOT Customer Experience*	*15%*	*70%*
Engagement Services ***Leslie Black***	*Grand Central Terminal Train Shed*	*15%*	
Senior Planner	*Hudson County Freight Study*	*10%*	*50%*
Kelsey Kahn	*I-95 Stamford PEL*	*25%*	
	Red Bank Master Plan	*15%*	
Information Technology Manager	*Red Bank Master Plan*	*5%*	*35%*
Eric Smith	*Greater Hartford Mobility Study*	*10%*	
	Non-project IT assignments	*50%*	
Techniquest			
Technician III	*PANYNJ - On call*	*35%*	*55%*
Nestor Marin	*Various projects*	*10%*	
Technician	*NJDOT TMS*	*40%*	*50%*
Sandra Estrada	*Various projects*	*10%*	
Senior Technician	*NJDOT TMS*	*40%*	*50%*
Pat Hoffman	*Various projects*	*10%*	
Senior Technician	*NJDOT TMS*	*40%*	*50%*
Carlos Garcia	*Various projects*	*10%*	

SOUTH JERSEY TRANSPORTATION PLANNING ORGANIZATION

RESOLUTION 2205-14: Approving the Selection of Greenman-Pedersen, Inc. (GPI) as the Consultant for the Countywide Local Road Safety Plans

WHEREAS, the South Jersey Transportation Planning Organization (SJTPO) is the Metropolitan Planning Organization (MPO) designated under Federal law for the southern region of New Jersey including Atlantic, Cape May, Cumberland, and Salem Counties; and

WHEREAS, the Fiscal Year 2023 SJTPO Unified Planning Work Program contemplated Federal Highway Administration Highway Safety Improvement Program (HSIP) funds for this project; and

WHEREAS, NJDOT Bureau of Bicycle, Pedestrian, and Safety Programs will authorize HSIP funds following a review of the winning consultant's technical scope and cost, and execute a separate Task Order for this technical study; and

WHEREAS, NJDOT will authorize funding for this two-year effort in two separate federal fiscal years, the first will authorize $1,998,815.93 in FFY 2022, noted as Part A in the proposal, and the second will authorize the balance of the contract, or $1,060,635.84, noted as Part B in the proposal, early in FFY 2023; and

WHEREAS, the proposal includes the option to extend the contract for a third year, noted as Part C in the proposal, which will provide ongoing support for the Plans as well as support to counties and municipalities in seeking funding for projects that support substantively safety; and

WHEREAS, the costs and precise scope of Part C will be evaluated and negotiated based on the needs of counties and municipalities as the process develops, which will allow the Policy Board to review and approve the scope and cost of Part C work; and

WHEREAS, the Notice of Availability of Requests was sent to 258 contacts on January 26, 2022; and

WHEREAS, the Request for Proposal (RFP) announcement and supplemental materials were also posted on the publicly accessible SJTPO website; and

WHEREAS, four (4) proposals were received; and

WHEREAS, the SJTPO Technical Advisory Committee (TAC) endorsed the consultant selection committee with representatives from Atlantic County, Cape May County, Cumberland County, Salem County, City of Vineland, City of Atlantic City, DVRPC, SJTPO, who reviewed and evaluated the proposals in accordance with SJTPO's published criteria; and

WHEREAS, the Consultant Selection Committee recommends Greenman-Pedersen, Inc. (GPI) in association with Jacobs and Urban Engineers, and with FHI Studio and TechniQuest serving as the Disadvantaged Business Enterprise (DBE) firms; and

WHEREAS, the SJTPO TAC, at their May 9, 2022 meeting, endorsed the recommendation of the Consultant Selection Committee;

NOW THEREFORE BE IT RESOLVED, that the Policy Board of the South Jersey Transportation Planning Organization hereby approves the above selection for the Countywide Local Road Safety Plans, with a maximum fee of $3,059,451.77 and 14.5% DBE participation; and

BE IT FURTHER RESOLVED, that the Policy Board authorizes the Executive Director to execute the scope of work and cost modifications to the original contract amount, provided that funding is available.

BE IT FURTHER RESOLVED, that the Policy Board requests that the South Jersey Transportation Authority execute the appropriate contractual arrangements with the consultant on behalf of the SJTPO.

Certification

I hereby certify that the foregoing is a correct and true copy of a resolution adopted by the Policy Board of the South Jersey Transportation Planning Organization at its meeting on May 23, 2022.

John W. Risley, Secretary/Treasurer