H-GAC ITS Strategic Plan – Transportation Operations Needs/Priorities Survey - 2017

A printable copy of the survey can be found <u>here</u>.

Preface: When thinking about TSMO, we should continue to "think regionally and act locally." "Regionally" can mean area-wide, statewide, multi-state areas or even nationwide. Local agencies will know best the types of strategies that will be most successful, in terms of both solving a problem and being accepted by the traveling public. However, local agencies should recognize that every individual ITS project should strive to be compatible with a larger ITS system if the overall goals of ITS are to be achieved.

You may contact the following individuals with any questions about the survey.

- Charles Stevens (TTI) c-stevens@tamu.edu 713-613-9230
- Tony Voigt (TTI) a-voigt@tamu.edu 713-686-2971
- Stephan Gage (H-GAC) Stephan.Gage@h-gac.com 713-499-6692

The survey should take approximately 20-30 minutes to complete. You can save your results and resume the survey later by clicking the "Save and Resume Later" buttons. Your email address will be used as a reference to your results.

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100%

General Information

First Name:	Last Name:
Title:	Organization:
Street Address:	City:
State:	Zip Code:
Phone:	Fax:
Email:	
* Your email address will be used to reference the	survey later. Please enter a valid address.
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Section 1. ITS Needs & Priorities – These questions are not specific to your agency, but consider a regional view when responding.

What should the <u>region's</u> "big-picture" goals be with respect to providing ITS Solutions. Please rank from 1 to 6, without duplication. If you choose the same rank twice, you will have to re-rank the previous item.

Goals	Regional Priority Rank
Increasing transportation system efficiency and capacity. Read More	▼
Enhancing mobility. Read More	▼
Improving safety. Read More	▼
Reducing energy consumption and environmental costs. Read More	•
Increasing economic productivity. Read More	▼
Creating an environment for an ITS market.	▼

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Top Issues: Prioritize the transportation problems potentially solved by ITS.

Please rank from 1 to 11, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional Priority		ecific Imp	nportance		
Transportation Problems	Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important
Traffic congestion	▼	0	0		0	0
Lack of mobility and accessibility	V	0	0		0	0
Disconnected transportation modes	V	0	0		0	0
Severe budgetary constraints	V	0	0		0	0
Transportation following emergencies	V	0	0		0	0
Traffic accidents, injuries, and fatalities	▼	0	0		0	0
Air pollution	V	0	0		0	0
Personal safety and security	V	0	0		0	0
Commercial vehicle operations/Goods movement delays	•	0	0		0	0
Unanticipated transportation needs /Enhanced Planning	V	0	0		0	0
Lack of transportation information/traveler information	V	0	0		0	0

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The following questions seek to define priorities for implementation and deployment, as well as serve as a guide to agencies when considering what types of services would be most helpful in addressing user needs. Please numerically rank in terms of regional significance, and qualitatively assess their importance to your agency.

When thinking about solving traffic congestion problems using ITS...

Rank the following potential ITS solutions to increase vehicle throughput.

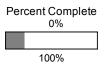
Please rank from 1 to 11, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importance					
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Surface street control (smart signals)	•	0	0	0	С		
Freeway control (ramp metering, ramp bypass, variable speed control, etc.)	•	0	0	0	С		
Reversible lane management capability	•	0	0	0	С		
Corridor management – regional/multi- jurisdictional data sharing and system management	•	0	0	0	С		
Corridor management - historical evaluation, real- time assessment, and forecast of the roadway network performance	•	0	0	0	С		
Corridor management – railroad operations coordination	V	0	0	0	С	1	
Corridor management – the use of weather data to manage traffic	▼	0	0	0	С		
Incident management – recurring and non-recurring events	▼	0	0	0	C	1	
Incident management – emergency evacuation and response	V	0	0	0	С	1	
Maintenance and Work Zone management – fleet vehicle tracking	▼	0	0	0	С		
Maintenance and Work Zone management – activity coordination	▼	0	0	0	С		

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When thinking about solving traffic congestion problems using ITS...

Rank the following potential ITS solutions to increase passenger throughput.

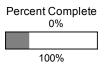
Please rank from 1 to 6, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

ITS Solutions	Regional Priority	Your Agency Specific Importance					
	Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Flexible transit	▼	0	0		0		
HOV lane management	•	0	0		0		
Integrating transit and other travel modes/feeder services	•	0	0		0	0	
Personalized public transit information	•	0	0		0	0	
Real-time ride matching	•	0	0		0	0	
Transit signal priority	T	0	0		0	0	

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When thinking about solving traffic congestion problems using ITS...

Rank the following potential ITS solutions to address reducing travel demand.

Please rank from 1 to 4, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

ITS Solutions	Regional	Your Agency Specific Importance					
	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Providing dynamic route guidance (en-route traveler information)	•	0	0	0	С)	
Providing enhanced trip planning and route guidance (either pre-trip and en-route)	•	0	0	0	С)	
Use of congestion pricing	•	0	0	0	C)	
Encouraging telecommuting	•	0		0	C)	

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When thinking about solving transportation <u>mobility and accessibility</u> problems using ITS, rank the following potential ITS solutions and qualitatively assess their importance to your agency.

Please rank from 1 to 8, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importance					
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Use of automatic vehicle location/tracking to update transit schedules and schedule adherence	▼	0	0	0	()	
Publishing multi-modal pre-trip traveler information only	•	0	0	0	(\supset	
Publishing multi-modal pre-trip AND en-route traveler information	▼	0	0	0	()	
Providing personalized public transportation service information, including the ability to request personalized public transit	•	0	0	0	(
Providing enabling technologies to provide transit operators with the ability to provide demand responsive transit operations	•	0	0	0	(
Providing turn-by-turn route guidance	▼	0	0	0	(\supset	
Providing real-time transit information at transit stops and on-board vehicles	▼	0	0	0	()	
Provide real-time parking facility information (could be park and rides and/or private parking facilities in activity centers	•	0	0	0	(

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When thinking about using ITS to <u>improve multi-agency or cross-jurisdictional transportation system operations</u>, rank the following potential ITS solutions and qualitatively assess their importance to your agency.

Please rank from 1 to 5, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importance					
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Disseminating multi-modal travel information pre-trip	V	0	0	0	(\supset	
Disseminating multi-modal travel information en-route	V	0	0	0	(\supset	
Creation/maintenance of a multi-agency regional transportation information clearinghouse to allow data sharing	T	0	0	0	(\supset	
Providing two way communications between multiple transit and traffic agencies to improve service coordination	T	0	0	0	(\supset	
Providing capability for the sharing of traffic information and control among traffic management centers to support regional traffic management strategies	•	0	0	0	()	

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When considering how ITS can help us <u>prioritize funding and/or create new funding sources</u>, rank the following potential ITS-based solutions.

Please rank from 1 to 9, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importance					
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
The use of ITS data for enhanced transportation planning, including more transit-based data	▼	0	0	0	0		
Fee-for-use to provide data to 3rd parties to package personalized travel data	•	0	0	0	0		
Fee-for-use yellow pages and/or reservation type services (information about lodging, restaurants, service stations, etc.)	•	0	0	0	0		
Use of more electronic toll/payment capability for transportation services (tolls, parking, transit, permits, etc.)	▼	0	0	0	0		
Efficiently manage lighting, minimizing electricity costs	•	0		0			
Advanced maintenance strategies – fleet management (location, etc.)	•	0	0	0	0		
Advanced maintenance strategies – fleet vehicle maintenance	•	0	0	0	0		
Advanced maintenance strategies – roadway maintenance and construction, scheduling based on minimizing cost to travelers and optimizing revenue capability	•	0	0	0	0		
Advanced maintenance strategies – infrastructure monitoring monitors the condition of pavement, bridges, tunnels, associated hardware, and other transportation-related infrastructure to minimize expense in inspection and traffic control	•	0	0	0	0		

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When thinking about how ITS can help us in <u>reducing accidents</u>, injuries and <u>fatalities</u>, rank the following potential ITS solutions.

Please rank from 1 to 12, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importance					
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important	
Advanced commercial vehicle fleet and freight administration (monitoring hazmat cargo/security and routing)	•	0	0	0	0		
Advanced railroad grade crossing systems	▼	0					
Detection of adverse weather conditions and response management capability	•	0	0	0	0		
Mayday support (support for in-vehicle emergency assistance requests)	_	0	0	0	0		
Use of automated warning systems – support for in-vehicle signing. Read More	•	0	0	0	0		
Use of automated warning systems – support for speed monitoring and either regulatory speed limit adjustment or warning speeds based on environmental conditions to suggest safe driving speeds	•	0	0	0	0		
Use of automated warning systems – support for work zone detection. Read More	•	0	0	0	0		
Integrate incident management capabilities with commercial vehicle tracking to assure effective treatment of HAZMAT material and incidents	•	0	0	0	0		
Intersection collision avoidance systems. Read More	•	0	0	0	0		
On-board commercial vehicle safety monitoring and reporting. Read More	•	0	0	0	0		
Partially and fully automated vehicle control systems. Read More	•	0	0	0	0		
Vehicle condition monitoring. Read More	▼	0	0	0	0		

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When thinking about how ITS can help us in <u>reducing air pollution</u>, rank the following potential ITS solutions.

Please rank from 1 to 10, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional Priority	Your Agency Specific Import			rtance	
ITS Solutions	Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important
Advanced traffic management – surface street control	•	0	0	0)
Advanced traffic management – freeway control	•	0		0		
Advanced traffic management – regional traffic management	•	0	0	0		
Advanced traffic management – speed monitoring	•	0	0	0		
Advanced traffic management – work zone management	•	0	0	0		
Multi-modal pre-trip traveler information	•	0	0	0		
Enhanced trip planning, including dynamic routing	•	0	0	0)
Real-time ride matching	•	0	0	0		
Remote emissions sensing	•	0	0	0)
Congestion pricing	▼	0	0	0		

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When thinking about how ITS can help us in addressing <u>safety and security concerns</u>, rank the following potential ITS solutions.

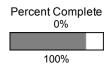
Please rank from 1 to 9, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional	Your Agency Specific Importa				ortance
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important
Transit surveillance and sensor monitoring - physical security of transit passengers and transit vehicle operators	•	0	0	0	0	
Asset tracking – commercial vehicles. Read More	•	0	0	0	0	
Biometric identification. Read More	•	0	0	0	0	
Electronic seals and GPS tracking of commercial vehicles	▼	0	0	0	0	
Threat detection – detect and classify security sensitive HAZMAT	▼	0	0	0	0	
Threat detection - detect when an unauthorized commercial vehicle driver attempts to drive their vehicle based on stored driver identity information	•	0	0	0	0	
Threat detection - monitoring of transportation infrastructure. Read More	▼	0	0	0	0	
Mayday services	V	0	0	0	0	
Route guidance and turn-by-turn direction support	▼	0	0	0	0	

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Section 2. Agency Info	ormation
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Section 2. Agency information
How would you classify your agency/organization?
OFFederal OState County Local Transit MPO Consultant Special Interest Other:
Does your agency currently operate any ITS system(s)? If yes, briefly describe.
Do you feel that management in your agency is knowledgeable about how ITS can serve your customers?
○ Yes ○ No
Do you feel that management in your agency <u>is willing to invest</u> in further ITS deployment to better serve your customers?
○ Yes ○ No
Does your agency have internal processes to compare traditional and ITS projects against each other?
○ Yes ○ No
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What are the barriers to further implementation of ITS within your agency?

Please rank from 1 to 11, without duplication, in terms of <u>your agency's importance</u>. If you choose the same rank twice, you will have to re-rank the previous item.

Barriers	Your Agency Rank
Inter organization coordination	•
Staff skill sets	V
Project financing	V
Freedom of Information	V
State laws	V
Federal Acts	V
Liability	•
Intellectual property	•
Lack of standards	•
Interagency coordination/cooperation	▼
Other	•

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How would you characterize the current level of ITS training and awareness of your agency staff and leadership?

■ ITS is not currently a priority of the agency, so very few of our staff know much about ITS.
Our organization might be a little adverse to change, so new technology is a barrier to ITS deployment.
Our agency currently has a little ITS or plans to implement some level of ITS, but staff knowledge and/or training is a barrier.
We have some level of staff with experience, but could use training opportunities.
We have adequate levels of staff with experience and self-train within the organization.
Other (Indicate Below)

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What level of capability does your agency have in deploying ITS systems and/or solutions?

We don't have sufficient knowledge to either contract for design or maintain and operate ITS systems
 We have the ability to specify and contract for design and construction, and the ability to contract for maintenance and operations of ITS systems (full outsourcing)
 We have the ability to specify and contract for design and construction, but not the ability to maintain and operate ITS systems internally (we cannot or will not outsource)
• We have the ability to spec and contract for design and construction, as well as the ability to maintain and operate inhouse.
■ We have the ability to design and construct with internal forces, as well as the ability to maintain and operate in-house.
Other (Indicate Below)

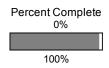
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How does your agency feel about the need to apply systems engineering to ITS projects?

 Very Important - No doubt, we need systems engineering. 	
Important - We would find value but are worried about cost.	
Neutral - We will do it becuase we have to.	
Not Important - Costs too much. Perceived return on investment is I	low.
Additional Comments	_

If HGAC could provide system engineering templates for high-risk project requiring a Systems Engineering Form (HGAC-TSMO-SER) and Systems Engineering Management Plan, which of the following potential ITS solutions rank highest for your organization.

Please rank from 1 to 7, without duplication, in terms of <u>regional importance</u>. If you choose the same rank twice, you will have to re-rank the previous item. In addition, please qualify how each question pertains to <u>your specific agency</u> in importance.

	Regional		Your Ag	ency Spe	ecific Imp	ortance
ITS Solutions	Priority Rank	Not Important	Somewhat Important	Important	Moderately Important	Very Important
Multi-agency coordinated signal system w/central software	▼	0	0	0	0	
New CCTV system – standalone, with new or future data sharing into TranStar.	▼	0	0	0	0	
New DMS installation – municipal/county standalone w/control sharing w/TranStar	▼	0	0	0	0	
Travel Time Monitoring system w/data sharing w/TranStar	•	0	0	0	0	
Some type of Transit-related system; maybe bus priority on signals or multi-agency fare collection	•	0	0	0	0	
Central traffic signal control and monitoring (combining central control w/CCTV monitoring for TIM)	•	0	0	0	0	
Other	▼	0	0	0	0	

How does your agency feel about the need to evaluate before/after benefits of ITS projects?

Important - We would find value in evaluation but are worried about cost.

Neutral - We will do it because may be required to evaluate.
ONot Important - Costs too much, we would rather deploy equipment just operate it.
Additional Comments
If you have any additional comments or questions, please add them here.

You may also contact the following individuals with any further questions about the survey.

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- Tony Voigt (TTI) a-voigt@tamu.edu 713-686-2971
- Stephan Gage (H-GAC) Stephan.Gage@h-gac.com 713-499-6692

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