GATEWAY CITIES TECHNOLOGY PLAN FOR GOODS MOVEMENT

Task 2 - User Needs Report

May 31, 2012
This document reports the User Needs identified for the Gateway Cities region. These needs were initially developed as part of the Gateway Cities Technology Plan for Goods Movement Background Research Report. These draft needs were presented and discussed with the ITS Working Group at the February 29, 2012 meeting. The Working Group’s comments have been incorporated into this summary PowerPoint. These issues/needs statements will help drive the technology solutions/projects which will be developed as part of the Gateway Cities Technology Plan for Goods Movement and implemented in the region to help freight move more safely and efficiently.

There is a summary graphic. Following that, each issue/need is displayed in a detailed table format, explained below.

Sample Table

<table>
<thead>
<tr>
<th>Issue/Need</th>
<th>Context</th>
<th>Source</th>
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<tbody>
<tr>
<td>This box an identified issues and/or need of the region that could be addressed through improved technology applications. Each lists specific applications and includes the relevant icons.</td>
<td>• In this box, the regional context is provided to give the reader the necessary background to understand the issue/need.</td>
<td>• In this box, the various sources which led the research team to believe this is a valid and important issue/need are presented</td>
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This document is organized around the following Project Groups:

- ITS Data and Transportation Management
- Drayage
- Private Sector Fleet Management and Dynamic Mobility
- Truck Staging and Trucking Services
USER NEEDS SUMMARY
User Needs Summary

This graphic summarizes the User Needs identified for the Gateway Cities region. These issues/needs will help drive the technology solutions/projects which will be developed as part of the Gateway Cities Technology Plan for Goods Movement and implemented in the region to help freight move more safely and efficiently. Each issue/need is grouped into a functional area.

Gateway Cities Technology Plan
ITS DATA AND TRANSPORTATION MANAGEMENT NEEDS
## User Needs

### ITS Data and Transportation Management

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<th>Issue/Need</th>
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| **Need for LA Safe 511 to be in Spanish as well as English.**  
**Specific Applications:**  
Truck Info Integration | • The ability to provide LA Safe’s 511 in Spanish through the web, signage and IVR, is seen as a significant benefit and one which would directly benefit the commercial vehicle community, as well as all Spanish-speaking travelers.  
• Regions such as the Bay Area and San Diego currently have their systems in Spanish as well as English. Many 511 software and telephony vendors offer these capabilities as part of their core service. | • Truck Driver Survey – Of 405 truck driver surveys completed, 60 percent of the respondents completed the survey in Spanish. This indicates a high need to have traffic information relevant to truck drivers (or high-volume truck routes) in Spanish also.  
• LA Metro Interview – LA Metro staff indicated that there are language barriers, particularly with the FSP service and they wanted to know if there’s something the should do to address that.  
• ATMIS Interview – The project manager for ATMIS implementation indicated that up to 75 percent of truck drivers are Spanish speaking so there are challenges for providing text alerts. They plan to use simple canned messages, mostly numbers and road names.  
• The ITS Working Group agreed that this is a need of medium priority (not a prime focus area but a nice to have). However, it was indicated that this should be for the larger Spanish-speaking community, not just focused on drayage drivers. |

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Gateway Cities Technology Plan
### Issue/Need

Need for a greater detail of real-time traffic information around both ports (specifically wait times at the terminal gates).

### Specific Applications:
- Truck Info Integration
- Queue Detection
- Arterial Travel Times

### Context

- The ability to provide more freight or commercial vehicle focused information in and around the ports was seen as a very significant need by a wide range of stakeholders.
- Although there is currently a website with CCTV traffic camera images of each gate in the POLB and POLA (latrucker.com); the CCTV picture alone does not provide enough information to gauge wait times at the gate with any certainty.
- The stakeholders mentioned the need for more access to real-time information about closures and incidents.
- It should be noted that the deployment of the ATMIS system will greatly enhance the region's ability to generate and share this type of information. However, operational strategies are not in place to ensure that this data (specifically wait times at terminal gates) are shared with every available public and private traveler information entity.
- It should be noted that 511 data are not currently exported for third party use, inhibiting the development of private information services for the goods movement industry.
- Possible development of an automated gate pass-through system for approved trucks.
- Possible development of a terminal gates queue detection system which advances that information to truckers or dispatchers approaching the ports.

### Source

- HTA – A project meeting with several HTA participants indicated gate queues are an issue and would like to know information such as planned staffing levels at the terminals to help gauge potential gate queue issues.
- PierPass – An interview with PierPass staff indicated that it would be helpful if marine terminal operators could improve sharing information about where and when areas are closed off. In addition, real-time turn time information sharing would be helpful to improve the drayage process.
- LA Metro – LA Metro staff indicated they did not understand the trucking communities needs well (data quality OK, static information needs, etc.) and wanted to get more traffic data in and around the ports, to help reduce congestion and improve reliability and safety. They also wanted to know what trucking data may be available and incorporated into 511.
- POLB/ACTA – The meeting with POLB and ACTA staff indicated that the private sector already has lots of information so the focus should be on what they already have and what they are willing to share (considering proprietary concerns).
- This dispatcher survey indicated that information on queues and traffic conditions around the Port were their highest priority need for traveler information. Of information improvements proposed, information on port queue lengths received the highest ranking, 4.0 of 5, with 60% of respondents giving the highest ranking. Real time routing information between origins and destinations was 2nd, receiving a 3.8 score and 50% giving the highest ranking. Over 80% of dispatchers reported they use traveler information for re-routing or changing pick-up delivery times. This result emphasizes the economic importance of real-time information.
- The trucker survey showed high priority for port traffic information (80% would find camera feeds of Port traffic useful).
- The ITS Working Group agreed with this need at a high-priority level. Discussions focused on data quality and cooperation needs with trucking companies and drivers, as well as addressing privacy concerns.
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| There is a need to identify an ongoing operator and maintainer for ATMIS system. | • Although the ATMIS system is scheduled to go online the summer of 2012, there currently is no staff dedicated to operating the traffic management component of the system. The port security department will continue to utilize the CCTV images for their mission but will not actively operate any of the other devices. There is discussion with Caltrans to post messages on the ATMIS signs however.  
• Finding a way to utilize this system to its full potential is a priority to the region, given that so many of the solutions to the needs listed in the document, surround utilizing the data and functionality the ATMIS system will create. | • ATMIS Interview - The project manager for ATMIS implementation was interviewed and identified the need to either hire a traffic manager within the Port system or to select another agency to run ATMIS.  
• The ITS Working Group noted that all TMCs, including ATMIS, should be linked together. This would facilitate both information exchange and consistency in the messages provided to the public.  
• The working group stakeholders, the dispatchers surveyed for the project, and the truckers surveyed for the project noted a great need for information on queues at the Port. When asked to rank various traveler information improvements, the dispatchers rated information on queue lengths the highest (4.0 out of 5) and real time routing to the Port second (3.8 out of 5). The ability to provide this information and to manage queues would be enhanced by having a traffic management component to the ATMIS system. |
## User Needs

### ITS Data and Transportation Management

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<td>Need for high quality real-time traffic condition data on major arterials used for goods movement.</td>
<td>Although some private third part data vendors such as INRIX and Google currently offer arterial traffic data in the study area, the data are not based on high quality detector data and could be considered not “real-time” enough due to latency and other issues (i.e. relying too heavily on historical samples/information).</td>
<td>LA County – LA County staff indicated there is a need for more and better traffic condition data – for planning, operations, and incident management. They are exploring public/private partnerships for arterial travel times. Different signal systems and jurisdictional issues need to be considered.</td>
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<td>Specific Applications: Truck Info Integration Arterial Travel Times</td>
<td>There is a need for the public sector to instrument the most important corridors for goods movement in the study region and share that high quality traffic data with LA Safe 511, RIITS, and other public and private stakeholders (INRIX, TomTom, etc.).</td>
<td>LA Metro – The interview of LA Metro staff indicated there is a gap for arterial information, beyond what is available from LADOT and that IEN data is limited. There is a need to coordinate and improve on what data best serves travelers needs for arterial roadways – and how to use at a regional level.</td>
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<td>It should be noted that jurisdictional issues pose a hurdle (i.e. coordinating along corridors which pass multiple jurisdictions, concerns over city loss of business with higher traffic speeds, and community buy in on the benefits of arterial management for detours during major freeway incidents).</td>
<td>The dispatcher survey indicated that traffic information on freeways and the port area had a higher priority than arterial information. However there was still significant interest in surface street travel times (3.1 out of 5) and surface street camera feeds (2.8 out of 5). In addition the survey showed heavy use of surface streets by trucking companies with the most heavily used being Alameda (60%) and Anaheim (40%).</td>
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<td>The trucker survey indicated that 88% of truck drivers would find better information on arterial traffic conditions useful.</td>
<td>The ITS Working Group agreed that this is a need but at a low- to medium-level priority as arterials are not well-instrumented at this point. It would require local cooperation/agreements.</td>
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## USER NEEDS

### ITS DATA AND TRANSPORTATION MANAGEMENT

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| Need for better signal coordination along major arterials used for goods movement. | • Because many of the arterial corridors identified in the I710 EIS/EIR as important for goods movement run through multiple jurisdictions; creating efficient traffic flow through coordinating signal timing and ramp meters can be a challenge. In major freight corridors traffic does not necessarily follow regular commuting patterns and is more variable. Regular signal timing can help move this traffic more efficiently and avoid the negative impacts of frequent stops and resultant idling. Some stakeholders noted that since there is no requirement to join regional integration systems such as IEN, coordination can present a challenge.  
• It should be noted that LA County has established five signal centric coordinating Forums within the County (I-170, I-105, San Gabriel, South Bay, etc.). They do discuss sub regional issues including synchronization. These existing standing committees should be leveraged as part of any program designed to address these issues. | • LA County - LA County staff indicated there is a need for better coordination of signal coordination across jurisdictional boundaries and at ramp junctions. In addition, they don’t currently assess and improve signal coordination on any regular basis – they only update based upon identified issues/malfunctions – but they would like more regular and frequent assessments for retiming. Different signal systems and jurisdictional issues need to be considered.  
• The ITS Working Group agreed that this is a need at a medium-level priority. It would require State, county, and local cooperation/agreements.  
• The dispatcher survey indicated heavy use of surface streets by trucking companies with the highest use on Alameda (60%) and Anaheim (40%). Others used by over 20% of respondents include Wilmington, Sepulveda, Pacific Coast Highway and Sepulveda. These high use corridors would be logical locations for improved signal timing and refined plans that account for the impact of CV traffic on flows. |

| Specific Applications: | Truck Info Integration  
Arterial Travel Times |
**User Needs**

### ITS Data and Transportation Management

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| No TMC in the region is currently focusing on freight transportation operations or archiving goods movement related data for performance measures. | • Of all the regional TMCs (Caltrans, LA County, Downey, Southgate, and Long Beach) none have an operational element which focuses on freight movements.  
• It should be noted however, that there was strong interest in developing the systems, procedures and resources to develop a traffic operations/management program focused on goods movement.  
• Some regional stakeholders also noted that their TMCs hours of operations may not line up with freight movement needs (i.e. they staff their TMC only during peak hour operations). Since much of the region’s freight movements occur at off peak hours, there is a need to staff some operators off peak to more closely match traditional freight and goods movement in the region. | • This was identified as a high priority need by the ITS Working Group. The ITSWG agreed that the needs of the goods movement industry were unique and that the industry could benefit from a focused TMC.  
• The ITSWG felt that an entire new TMC may not be necessary; that a freight-oriented TMC could be developed by leveraging the resources of existing TMCs including Caltrans, LASAFE/511, ATMIS and LA County.  
• LA Metro noted that the RIITS database could serve as a collection point for freight-oriented data and could be used to support the TMC. Bringing in ATMIS data to RIITS would be very important to this effort. Other truck-related information such as OS/OW restrictions and parking locations could be incorporated. The data would be disseminated through 511 and other channels but the freight TMC would have the role of management, monitoring and updating.  
• The LA County TMC, which controls some of the arterials in the study area, could coordinate their activities with a goods movement TMC, using the IEN connection to share data on arterial travel conditions.  
• The truck dispatcher survey found that most companies rely heavily on freight-specific information for dispatching and routing decisions including Emodal (84%), driver calls (80%) and direct contract with Ports via phone, email or website (74%). On the other hand few dispatchers use more general traveler information sources such as CCTV feeds (25%), SigAlert (25%) and 511 (7%). A freight-oriented TMC provides an opportunity to combine specific and general sources in a way that would allow targeted information to be provided to dispatchers and truckers.  
• Based on the truck driver survey, the key improvements desired by drivers are better freeway traffic information and information that is easier to use, more accurate, and delivered faster. Each of these improvements was rated as useful or very useful by at least 90 percent of drivers, suggesting that there is a strong desire to see better delivery of accurate and actionable information. |

**Specific Applications:**
Transportation Mgmt.  
Truck Info Integration  
Performance Monitoring
## USER NEEDS
### ITS DATA AND TRANSPORTATION MANAGEMENT

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| Need for additional arterial CCTV cameras on major arterials used for goods movement. | • Although Caltrans maintains and widely shares its extensive CCTV system deployed on the region’s freeway system; stakeholders noted the need for additional CCTVs on major arterials used for goods movement.  
• These arterial CCTV are helpful in monitoring/managing day-to-day traffic on heavy freight corridors. These cameras are critical in managing freeway diversions or evacuations during major incidents or emergencies as well as providing more CCTV images on a day-to-day basis which could be shared with private and public sector traveler information outlets.  
• It should be noted that stakeholders said that many of the arterial cameras in the region are fixed (either because they are primarily used for detection or by design). | • LA County – Interview with LA County staff indicate they use the cameras that are part of the signal systems to assess issues reported or identified. However, many are fixed and are not intended for transportation management purposes but would be desired for operations.  
• POLB/ACTA – The meeting with POLB and ACTA staff indicated that it would be desired to have the ability to get snapshots of traffic images available on the web, phones, etc., this would come from cameras.  
• The ITS Working Group agreed that this is a need at a medium-level priority.  
• The dispatcher survey indicated that traffic information on freeways and the port area had a higher priority than arterial information. However there was still significant interest in surface street travel times (3.1 out of 5) and surface street camera feeds (2.8 out of 5). There was a higher level of interest in cameras that directly serve the Port area with a ranking of 3.7 out of 5.  
• The trucker survey indicated that 88% of truck drivers would find better information on arterial traffic conditions useful. |

**Specific Applications:**  
- Transportation Mgmt.  
- Truck Info Integration  
- Arterial Travel Times
## Issue/Need
Need for more coordinated incident management programs focused on goods movement in the region.

### Specific Applications:
- Transportation Mgmt.
- Truck Info Integration

### Context
- Stakeholders mentioned a number of issues surrounding incident management as it relates to goods movement ranging from the lack of an overarching program to simple towing contract issues.
- Need for more extensive coverage with “big rig” wreckers used on several freeways, including I-710.
- Service Patrol beats have separate contracts that prevent shifting from one route to another. This could prevent “big rig” wreckers from being used where needed in a timely and effective manner.
- LA Metro and therefore LA Safe 511 does not get dispatch information directly from CHP. There is sometimes a time gap until all data are reported. More timely reporting would help to speed response and recovery time, particularly for commercial vehicle incidents. It also helps LA Metro and CHP with strategic placement of response vehicles.
- There is currently no coordination of FSP with Caltrans TMC, other than general support the TMC may provide around an active incident. This reduces the amount of information available to both commercial vehicle drivers and the general public since Caltrans posts electronic sign messages.
- Finally, LA Metro lacks feedback to determine whether FSP is meeting needs of trucking community.

### Source
- LA Metro noted the success of their “Big Rig” program in the Gateway Cities area. This program stations large wreckers in areas of heavy commercial traffic that can remove big rigs more quickly. MTA feels there is a demand for expansion of this program. There is also a need to make the towing contracts more flexible so that big rigs can be moved more easily between roadway segments. Current contracts restrict this ability.
- LA Metro also identified a need for better coordination with CHP, which dispatches the wreckers. Improved coordination could help provide for more timely reporting of incidents and traffic conditions, and could help improve response times and overall management efficiency.
- Caltrans provides early warning of incidents through its automated detection system, verifies incidents through CCTV and posts messages on signs. Incidents are entered primarily by CHP and reports provided by Caltrans. CHP incident information is available on a public site that is used by 511 and the information stored in RIITS. While Caltrans does not have a direct role in the LA Safe Incident Management program it would continue to have an important role in detection and monitoring of CV incidents and resultant traffic impacts.
- The research conducted for this project into Connected Vehicle technology highlighted the fact that on-board devices on the vehicles can provide data instantly on a truck crash or incident, including both location and information on the nature of the crash. This reporting can occur even when the driver is incapacitated. Given the confidentiality issues involved, this information would go to the trucking company/dispatcher and necessarily to public sector agencies. However, the opportunity exists, with improved coordination, to use this information to enhance both the speed and effectiveness of response time.
- The dispatcher survey provides a list of freeways and surface streets that are used most by trucking companies serving the Port. When combined with CV crash information this can help to identify priorities for expanded “Big Rig” service.
## User Needs

### ITS Data and Transportation Management

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| Integrate ATMIS system with Emodal and Voyager scheduling programs for port travel time and congestion information. | • A longer term need was identified to integrate the traffic management component with other port central operations systems such as Emodal and Voyager.  
• The functional issues and needs are discussed in greater detail under the related need: Need better sharing of information between MTOs and drayage truck fleet drivers. | • ATMIS – The interview with the project manager for the ATMIS implementation indicated the desire to integrate ATMIS with Emodal and Voyager scheduling for access to ports to provide travel time information to help reduce congestion and improve information. Would also like for better sharing of lane closure and traffic control information.  
• The dispatcher survey indicated 84% use of Emodal by trucking companies responding, indicating this system is a good candidate for integration. The survey showed that use of automated dispatching technology and GPS/AVL has a large potential for growth. Just over 40% of respondents use some type of automated or partially automated dispatching system while only 38% use some type of GPS/AVL system on their trucks. |

### Concern with the funding the longer term operations and maintenance of these advanced technology communications systems.

**Specific Applications:**  
Transportation Mgmt.  
Truck Info Integration

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| • Some of the ITS backbone and equipment in the region is either obsolete or reaching/beyond useful life. Maintenance and replacement funding has been increasing difficult given the current budgetary environment.  
• This will impact the effectiveness of any of the goods movement-oriented information and management system discussed here in this report. | • Caltrans, which operates and maintains the largest amount of ITS equipment in the region, identified funding for operations and maintenance as a major concern for future viability of the system. Current budgets are not adequate to maintain existing equipment and replace obsolete equipment.  
• Other agencies interviewed including LA Metro and LA County expressed concern about funding for continuing operations and maintenance and were aware of the significant funding shortfall Caltrans is experiencing. |
DRAYAGE OPERATIONS NEEDS
## User Needs: Drayage

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| High queue times at marine terminal gates; and improve quality and dissemination of marine terminal gate queue data to drayage truck fleets. | - Queue times outside marine terminal gates are a major concern that reduces productivity of drayage truck operators  
- The operation of each terminal gate is different – it was mentioned by stakeholders that there are differences in how effectively terminals operate.  
- PierPass can lead to queues inside and outside the gates near the time the cost changes as drivers try to minimize their costs by adjusting their pace.  
- Ship arrival times/days can cause congestion within and around the Ports. | - The HTA interviews, the national FRATIS survey, and the Dispatcher survey all highlighted information on terminal queue delay as a major freight information gap which is adversely affecting drayage operations.  
- At the HTA Workshop, a consensus view was that if reliable, easily accessible information about queue times were available to truck operators or dispatchers, it would help truck operators to make better decisions about how to optimize their travels (i.e. if a truck operator has to visit several terminals, such information could help them decide which terminal to visit first for pick-up).  
- While some marine terminals provide sometimes infrequent videos of their terminal queues, many have been resistant to share such information or to cooperate in a port-wide approach to provide information to trucking companies on terminal queues (ITS Working Group).  
- PierPASS RFID transponders could potentially be used to estimate queue lengths (PierPASS interview). |
### Issue/Need

- Congestion within marine terminals; and
- Need better communication of issues/closures at terminals to truck fleets.

### Context

- A reduction in turn time would also improve drayage productivity and help drayage fleets increase revenues.
- A variety of reasons can contribute to delay within marine terminals including issues related to equipment, unloading and loading procedures, and staff availability.
- PierPass has worked in collaboration with both POLA and POLB to study this issue and made congestion mitigation recommendations.
- Drayage truck operators sometimes receive limited warning prior to closures of certain parts of the container yard, which requires waiting and repositioning to pick up the container within the yard.

### Source

- The HTA interview and the HTA Workshop both identified congestion within marine terminals as a major impediment to drayage operations; a major example of this is when terminals close off a portion of the terminals to trucks, which leads to delays both inside and outside the terminal.
- The HTA Workshop concluded that a key way to address this problem would be for the MTO’s to provide online information on covering planned or emergency closures, which could be accessed by drayage dispatchers.
- The ITS Working Group assessed this issue need as difficult to address given the expected reticence of the MTO’s to provide information concerning delays within their terminals.
- FHWA suggested that the starting point would be to find one or two terminals which would be willing to participate in testing this sort of information dissemination.
## USER NEEDS: DRAYAGE

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| Extra drayage trips | • Dry runs and empty equipment moves result in increased travel times, costs and emissions from trucks.  
• Having improved technology to match loads and reduce empty moves could help limit extra drayage trips. | • The HTA survey highlighted that 57% of trucking fleets desired improved information on container availability.  
• The FHWA C-TIP evaluations results presented at the ITS Working Group showed that up to 15% reductions in bobtails could be achieved through better information sharing between the railroad terminals and drayage companies serving them – this would directly translated in reductions in drayage trips.  
• The HTA Workshop concluded that loadmatching is generally not an issue in the LA/LB port region – it is already being done where feasible.  
• The ITS Working Group commented that the ability of truckers, importers and exporters to share equipment (containers and/or chassis) and information on container pickup/dropoff opportunities is very problematic due to the lack of communication between trucking fleets; improved communication would make truck trips more efficient. |
### USER NEEDS

#### DRAYAGE

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| Need better sharing of information between MTOs and drayage truck fleet drivers | • Most drayage productivity problems could be improved by greater collaboration between MTOs and drayage truck operators.  
• Some steps in collaboration have already occurred as part of the PierPass report that focused on turn time issues at the ports. | • The HTA workshop attendees commented that information on the status, queues and basic operational information from the terminals is frequently not available from the MTO’s; some MTO’s do provide some limited info on web sites, including some attempts at limited video of queues.  
• The ITS Working Group, FHWA, and Cambridge Systematics have identified the need of MTO involvement as key to the success of developing and deploying any drayage-related technologies for the Gateway Cities ITS – this will be a difficult challenge based on the historical reticence of the MTO’s to provide information concerning delays within their terminals.  
• FHWA suggested that the starting point would be to find one or two terminals which would be willing to participate in technology development and testing.  
• PierPASS has suggested that they can help to facilitate access to the MTO’s, provided that benefits and potential funding can be demonstrated. |

**Specific Applications:**

Drayage Operations
### USER NEEDS  **DRAYAGE**

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| Improved and expanded goods movement scheduling system to help reduce delay inside and outside the terminals | • One way to help control peak-hour congestion is through improvements to the truck appointment systems that are in use at POLA and POLB marine terminals.  
  
  • Appointment systems could generate more predictability in terms of daily pickups, which is a positive for drayage truck operators who get paid per move.  
  
  • The primary benefit that customers get from an appointment system is that the reliability of shipment date/time should occur. | • The HTA Workshop concluded that if there are workable incentives and/or disincentives for both parties – for the trucking company to make the appointment window on time, and the for the MTO to provide timely access to the terminal for the drayage truck during that appointment window – that appointments could significantly be help to improved drayage truck efficiency in the port regions; however the HTA survey results indicated that reservation systems were not one of the higher priority technologies desired.  
  
  • PierPASS views appointment systems as the next step in their evolution of marine terminals efficiency and transportations operations.  
  
  • In the national FRATIS drayage survey, 83% of drayage drivers already are required to schedule pickup or delivery of containers at intermodal yards (although these are not typically “appointment systems”) – the appointment window is typically 30-minutes.  
  
  • BNSF agrees with the concept of apt system, but has lived through issues in trying to make them work; BNSF did create incentives (e.g. much cheaper at X time of day), which helped, by their largest customers still demanded immediate access with no appointments. |
## User Needs: Drayage

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<td>Provide railyards and customers with more timely container arrival information</td>
<td>• Currently, customers are informed that a shipment is coming at a certain date/time. However, the process used to update these clients of delays or changes in delivery date requires further investigation.</td>
<td>• The FRATIS national drayage survey highlighted that information on the status, queues and basic operational information is frequently not available in real-time from the rail intermodal terminals.</td>
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<td>• The ITS Working Group commented that “bunching” of ship arrivals at the port terminals can infrequently cause congested conditions at the on-dock and near-dock rail terminals; improved information usage of ship arrival times, an improved scheduling/reservations of container pickups from the drayage fleet could potentially alleviate some of these issues.</td>
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<td>• BNSF commented that a major issue is that currently, data operates in silos – shippers, terminals, railroads, truck operators, ports etc – all operate in silos, and there is little “open architecture.”</td>
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<td>• FHWA’s C-TIP Evaluation results, presented at the ITS Working Group, highlighted that measurable efficiency improvements could be realized by drayage companies and railroads through information sharing on container availability.</td>
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Specific Applications: Drayage Operations
## USER NEEDS   **DRAYAGE**

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<td>Truck congestion on key Gateway Cities roadways</td>
<td>• Congestion on roads and arterials outside of terminal gates impedes drayage truck productivity, especially during peak hours.  &lt;br&gt;• Ongoing SCAG analysis will help identify the key truck bottlenecks in the southern California region.</td>
<td>• The HTA survey, the Dispatcher survey, the national FRATIS drayage survey, the ITS Working Groups, and nearly all interview respondents were in agreement that truck congestion on key Gateway Cities and analogous national port complex roadways were a major issue that needed to be addressed; peak hours conditions are of paramount concern.  &lt;br&gt;• Both nationally, and locally, monitoring of freight congestion on major arterials is typically ignored by ITS sensor systems.  &lt;br&gt;• MTO and trucking operations in response to PierPASS have created unintentional new peak conditions for trucks both in the early evening hours and at the 10 PM “lunch break” for longshoreman.  &lt;br&gt;• I-710 and I-91 are perceived as the most freight-congested freeways; Pacific Coast Highway and Alameda Street are perceived at the most freight-congested arterials.  &lt;br&gt;• The Ports of LA and LB commented that the regional port ATMIS system would soon be turned on, and it would provide key information concerning the major arterial and port roadway connectors for the port complex transportation systems.  &lt;br&gt;• The national FRATIS drayage survey determined that information needed by drivers for these facilities should be comprehensive – highways, arterials, marine and rail terminals, and other connectors are where ITS sensors needs to be placed.</td>
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<td><strong>Specific Applications:</strong></td>
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<td>Arterial Travel Times</td>
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<td>Freeway Detection</td>
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PRIVATE SECTOR FLEET MANAGEMENT NEEDS
## User Needs

### Private Sector Fleet Management

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<th>Issue/Need</th>
<th>Context</th>
<th>Source</th>
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| Need for public-sector to obtain better freight travel data | • There are several private-sector fleet management technologies and systems in the marketplace.  
• There is significant advancement being made in these systems -- the range of functions and the data that these systems provide are continually improving. | • At a regional level, truck movement data from private sector fleet management systems could be a benefit to planning, and could also potentially support ITS applications (ITS Working Group).  
• The HTA interviews and the national FRATIS survey both highlighted that the trucking company dispatcher or operations manager is most often the key information decision maker concerning fleet routing; the second most common key information decision maker concerning fleet routing is the driver; the types of truck movement information utilized by these users of the fleet management systems can potentially be used as “truck probe” data for ITS systems.  
• Almost of the HTA trucks are equipped with latest fleet communication systems; systems like Teletrack, Turnpike (Sprint), Sysquest, Qualcomm etc. are used; these are on-board systems with GPS antennas with two-way communication and can track location; some of these systems can connect to the engine bus and provide other information (eg. speed, etc.) (HTA Workshop).  
• The NCRFP-31 project for TRB that CS is conducting is currently developing best practices for the public-private sharing of freight data, including data from fleet management systems. This project will be completed in Fall of 2012. |
### USER NEEDS

#### PRIVATE SECTOR FLEET MANAGEMENT

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| Private-sector need for better regional freight ATIS | Trucks in the region are frequently equipped with latest fleet communication systems. Study participants agreed that fleet management systems have improved their productivity and operational efficiency. | The HTA interviews, the dispatcher survey, and the national FRATIS survey, collectively highlighted the need for improved freight traveler information in the following areas:  
- Real-time reliable information for freeways, port/terminal connectors, and major freight arterials  
- Incident information, including clearance time estimates  
- Routing recommendations to bypass congestion (dynamic routing)  
- Terminal queue times  
- Weather Information (Including predictive). |

Specific Applications:  
- Truck Fleet Comm.  
- Transportation Mgmt.

- The USDOT’s FRATIS ConOps provides for integration of public and private sector freight ATIS data sources within an region, resulting in specific freight-tailored ATIS applications (Randy Butler, FHWA); this could potentially provide guidance for the Gateway Cities “Freight TMC” and the ITS Working Group PPP approaches to freight traveler information integration.
TRUCK STAGING AND TRUCKING SERVICES NEEDS
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| Need for capacity expansion for truck parking/staging | • The land values and cost of development for parking vs. retail, real estate improvements, etc. often makes truck parking development a challenge.  
• California code restricting private services on public rest areas (on facilities constructed after January, 1960) prevents certain types of truck parking investment.  
• Weigh/enforcement needs and commuter needs often compete for infrastructure capacity.  
• Private assets are often not graded for commercial weight/size infrastructure wear and additional liability issues assumed by property owner.  
• The addition of near-port staging parking creates a competitive disadvantage issue with local dray operators required to provide their drivers parking.  
• Truck enforcement is a high priority for Gateway Cities. | • The Dispatch Survey indicated that for longer haul trucking, staging/parking was an issue.  
• The HTA survey illustrated that I-710, and the Port areas were the most requested areas for staging/parking.  
• The findings of the trucker survey could provide additional insights that could help focus this need.  
• The Gateway Cities Safety Initiative includes the development of permanently operating truck enforcement facilities. |
| Need for greater information exchange regarding existing parking | • Lack of parking and information about the location and availability of parking presents truck drivers with difficult/dangerous choice between illegal parking or noncompliance with HOS laws.  
• There are varying end user technologies and needs for information exchange (cell phone; dispatcher/in-cab communication; pre-trip vs. en route planning).  
• Several federal and regional projects (such as SmartPark and California iPark) provide opportunities for advanced truck parking information exchange lessons. | • The Dispatch Survey indicated that for longer haul trucking, staging/parking was an issue.  
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• The findings of the trucker survey could provide additional insights that could help focus this need. |
CONCLUSIONS AND NEXT STEPS

The needs listed in this document illustrate the complex nature and wide range of challenges facing efficient goods movement in the Gateway cities region. They range from straightforward gaps in ITS infrastructure to complex public/private policy issues. The solutions to these issues will only be achieved through a variety of technology projects woven together with institutional partnerships along with long-term fiscal commitment to operations. These needs, when overlapped with the regional ITS and goods movement assets currently in place, along with capabilities of the private sector, help identify how these projects can be developed.

For the next step of the Gateway Cities Technology Plan for Goods Movement (Task 3), a series of projects will be designed to address the needs identified in this document. Some projects will address multiple needs, while others will address only one.

These projects will cross the Project Groups (i.e. Data Collection, Emerging Goods Movement Technology Application, etc.) and be designed to address, in the most efficient manner, as many relevant needs possible. The ITS Working Group will review these draft projects so their input can be incorporated. This meeting will occur on May 2, 2012. Once these projects are agreed upon by the ITS Working Group, they will be more robustly designed to more fully understand the steps needed to accomplish each project, along with the associated costs and schedule for deployment.

Finally, a Concept of Operations will be developed that describes how the these projects will operate collectively on a daily basis and how they interact and leverage information across projects. The development of the Concept of Operations will be followed by an overall Business and Implementation Plan which will provide a roadmap for implementation.