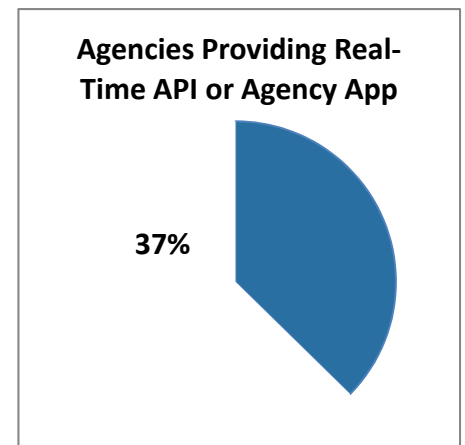


APTA Surveys Transit Agencies on Providing Information and Real-Time Arrivals to Customers

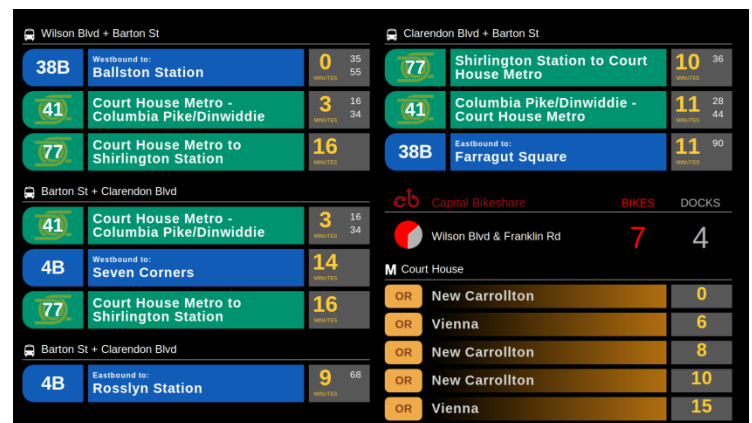
In July of 2012, APTA conducted a survey of its transit agency members, asking how they are providing information on service, schedules, and real-time arrivals to customers. Seventy-five APTA transit agency members responded to the survey, a 24% response rate.

The key takeaways from the survey are that many agencies are providing information on transit schedules and routes to their customers. Agencies are using a variety of tools such as web-based trip planners, services customers can text, and Google Transit to allow customers to plan a trip. Nearly two-thirds of agencies with the ability to track their buses are providing real-time arrival information for their riders. Over 80% of those agencies who do not provide real-time information would like to do so. Two-thirds of those agencies with real-time information provide an interface so app developers can utilize that information independent from the agency.



Real-time data helps transit customers spend less time waiting for their vehicle to arrive, and having this information available can lead to increased ridership. Providing an interface for third-party applications allows developers to find innovative ways to provide this information to transit customers.

Twenty-five of the respondents provided over 25 million trips in FY2010 – these are classified in the report as “large agencies.” Agencies providing fewer than 25 million trips are “smaller agencies.” Six Canadian agencies responded – five in the large agencies group and one in the smaller agencies group.

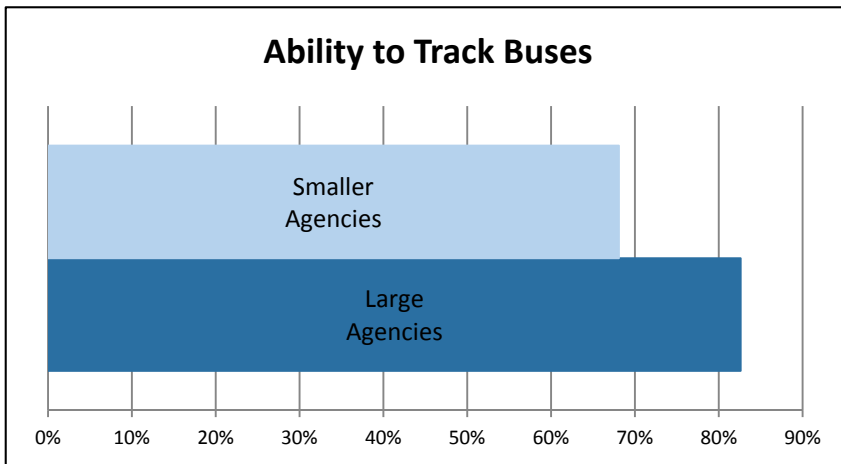
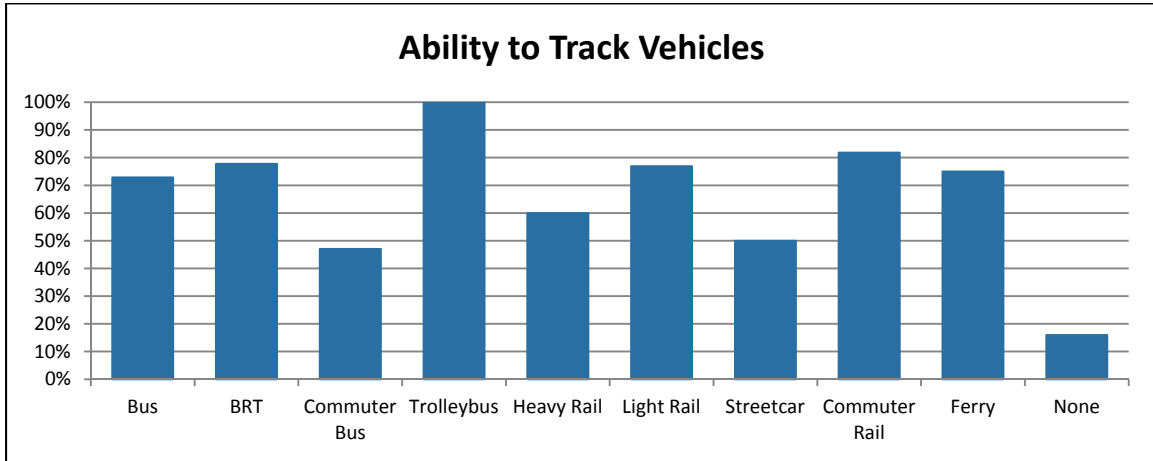


An information screen utilizing real-time data from several transit agencies. Image courtesy of [Greater Greater Washington](#).

Real-Time Data

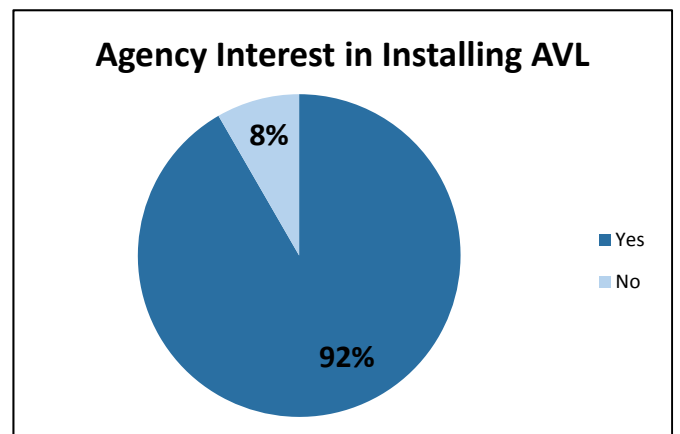
Real-time data systems allow agencies to know the position of agency vehicles. They can then use that information to provide information on when their vehicles will arrive at each particular stop. This information helps customers better plan their transit trips and can reduce waiting times at stops and stations.

Most agencies have the ability to track their vehicles. Only in the commuter bus category do fewer than 50% of agencies have the ability to track their vehicles. Only 16% of agencies have no ability to track vehicles of any mode. Of those agencies with tracking ability the vast majority can track over 90% of their vehicles.

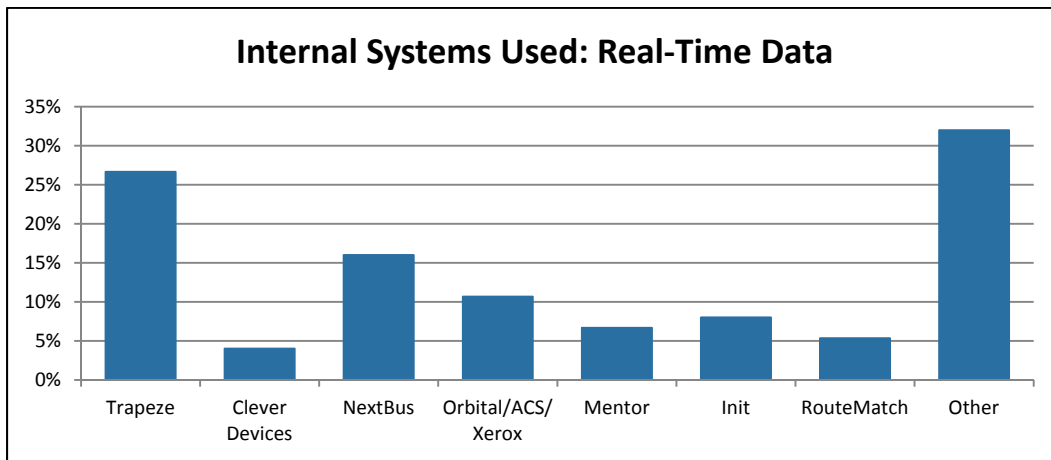


Large agencies are more likely to be able to track their buses than smaller agencies, but around two-thirds of smaller agencies have this capability. With the right tools, these agencies can provide real-time data to customers.

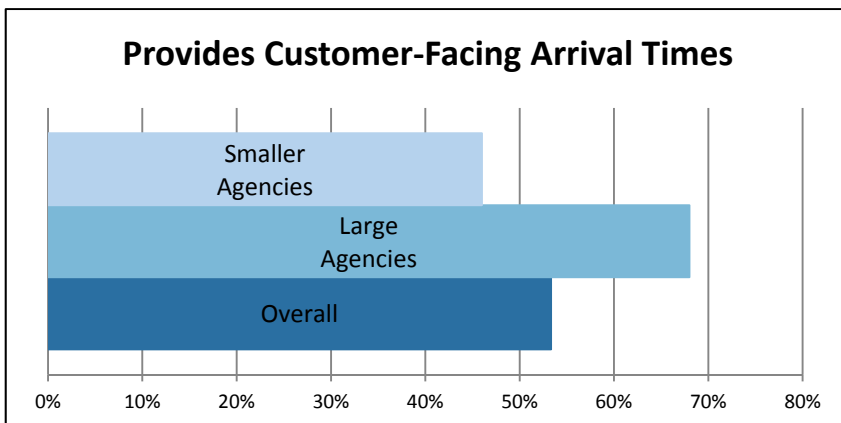
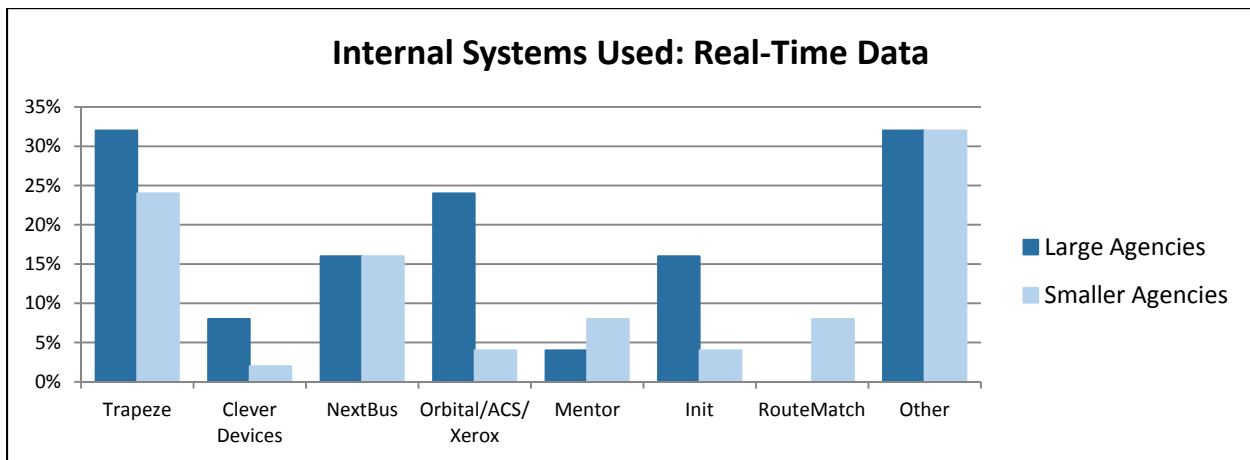
The vast majority of agencies without AVL technology are interested in installing it on their vehicles. The spread of AVL technology should continue because of agency interest.



Agencies use a wide variety of tools to manage their real-time data. Trapeze is the most popular, followed by NextBus. Many agencies, especially smaller agencies and rail agencies, use in-house developed tools or custom tools that both fall into “other.”

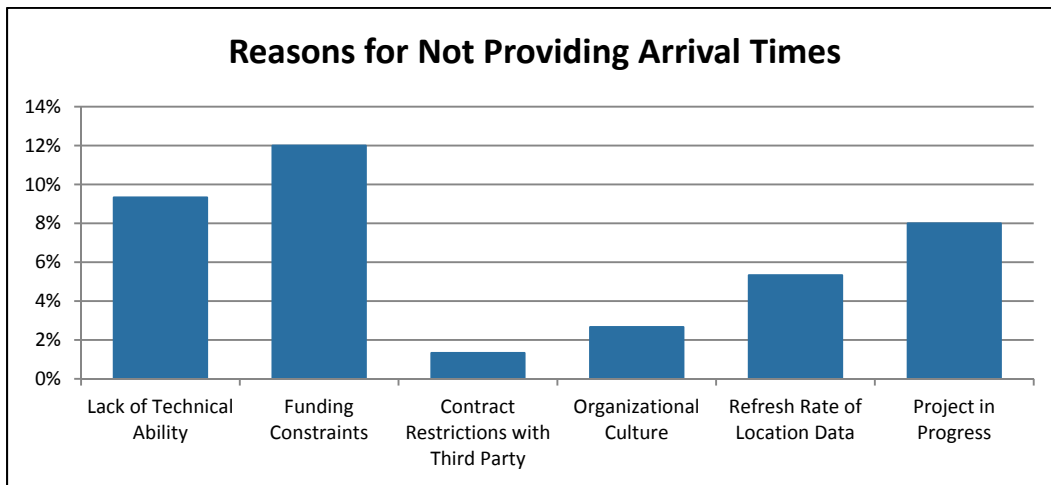


Larger agencies are more likely to use tools from Trapeze, Orbital/ACS/Xerox, and Init. Smaller agencies are more likely to use tools from Mentor and RouteMatch. NextBus has an even market share. The other software category is also evenly split, but the large agencies trend toward in-house designed tools while smaller agencies prefer smaller software firms.

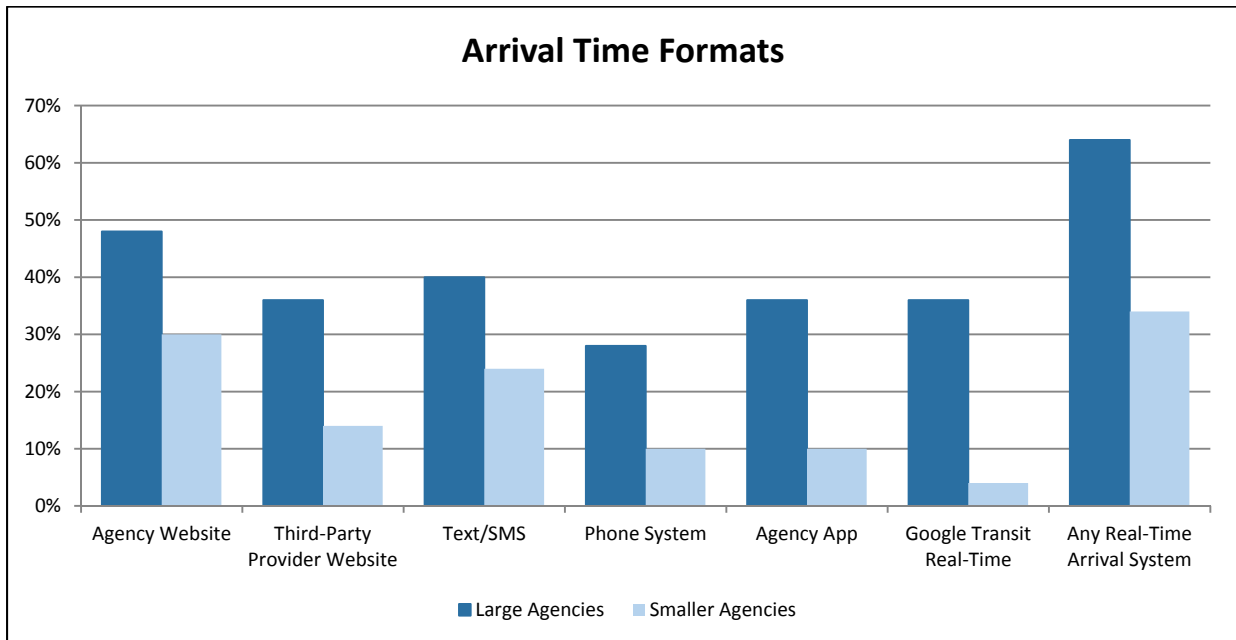


Fifty-three percent of responding agencies provide arrival times to customers. Over two-thirds of large agencies with AVL provide arrival times.

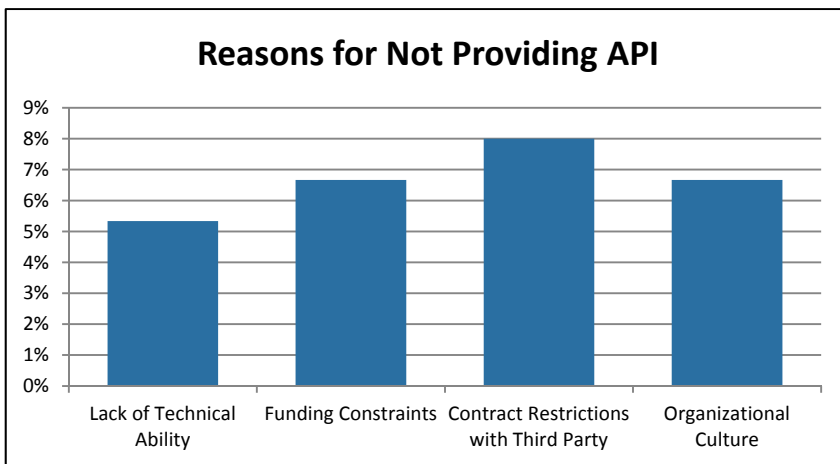
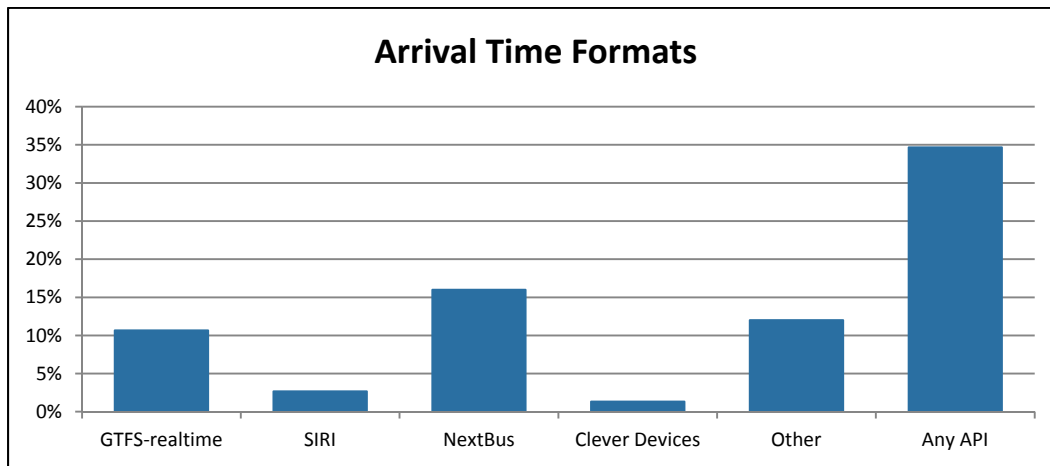
Agencies that do not provide arrival information were asked why. Most agencies cited funding constraints and a lack of technical ability. Around eight percent of all agencies surveyed (one-quarter of those without arrival time capability) said that they have a project in progress to provide customer-facing arrival times.



Across the board, large agencies were more likely to provide customer facing arrival times as indicated above, but there are interesting gaps indicated below. Smaller agencies are catching up to large agencies in providing arrival times on agency websites or via text message, but large agencies held an edge in providing arrival times via automated phone systems, an agency-created app, or on Google transit. Providing a wide variety of ways to access arrival times helps to serve the entire spectrum of transit customers.



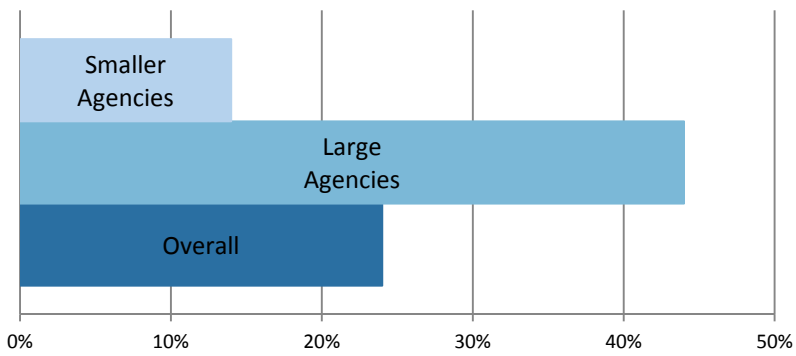
Just over one-third of all agencies provide an application programming interface (API) for third-party developers. APIs allow third-party applications to read and display data provided by transit agencies. The most popular API used is Nextbus, followed by GTFS-realtime.



Those agencies that did not provide an API for third-party use most often cited contract restrictions with third parties as the reason for not having an API. Just over six percent of agencies cited funding constraints.

One respondent mentioned the ArrivalStar lawsuits as a reason for not providing an API for real-time information. A number of transit agencies were the victims of frivolous patent infringement claims from ArrivalStar, a company based in Luxembourg. APTA and the Public Patent Foundation filed a lawsuit in federal court on June 25, 2013 stating that ArrivalStar's patents are invalid and cover ineligible subject matter. APTA Announced on August 21, 2013 that ArrivalStar agreed to stop making patent claims against APTA transit agency and industry vendor members. At least 11 transit systems were subject to ArrivalStar lawsuits and decided to settle rather than pursue costly litigation.

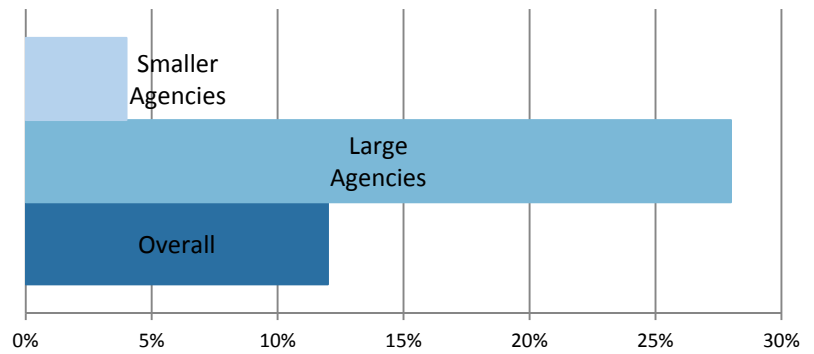
App Developers Using Real-Time Data



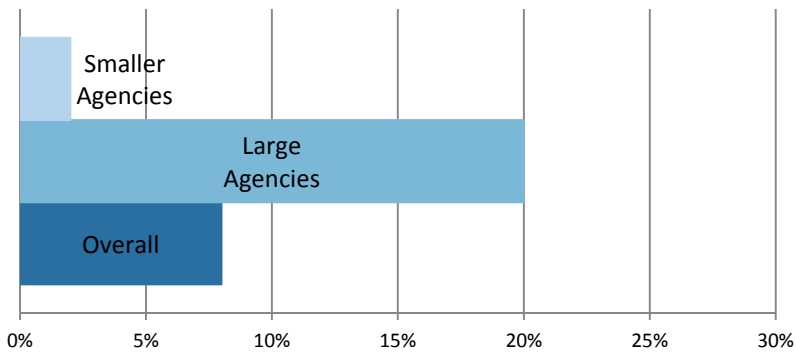
Around one-quarter of agencies surveyed indicated that app developers are using their real-time data. Forty-four percent of large agencies indicated that developers use their data and fourteen percent of smaller agencies indicated that this is the case.

Twelve percent of agencies surveyed are highlighting real-time apps in some way. Twenty-eight percent of the large agencies are highlighting apps, mostly via a page on their website.

Agency Highlights Real-Time Apps

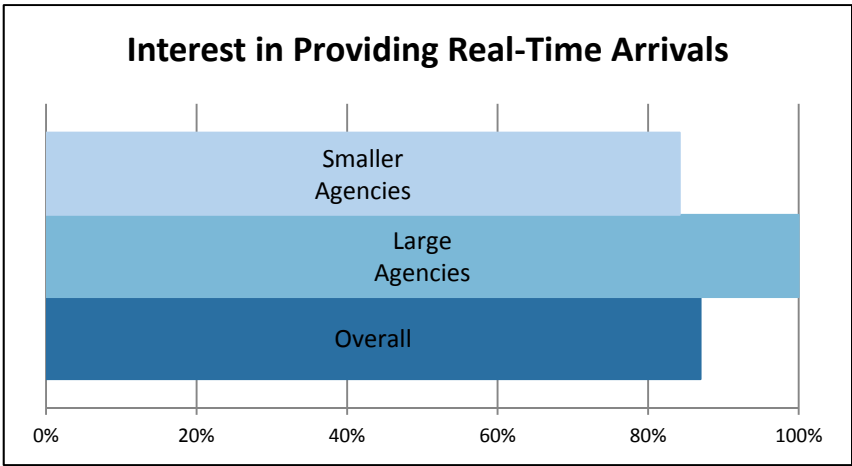


Agency Held App Contest



Eight percent of agencies have held an app contest. More large agencies have engaged in this process, 20% of large agencies held a contest..

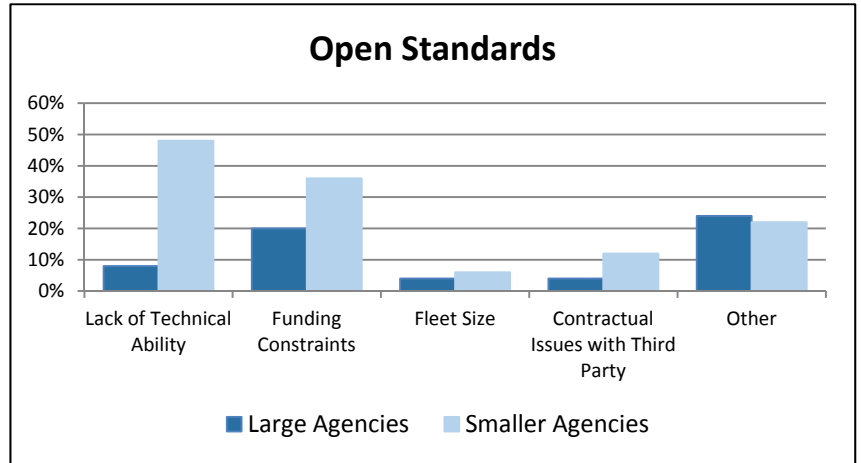
Interest in Providing Real-Time Arrivals



All of the large agencies that do not currently provide real-time information are interested in doing so in the future, and more than 80% of small agencies are interested in doing so.

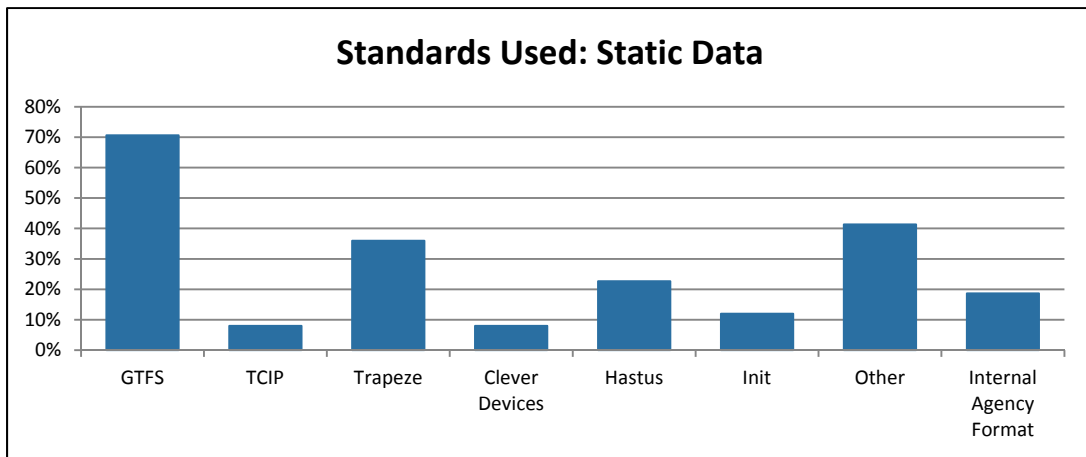
Agencies cited a wide variety of reasons for not using open standards. Smaller agencies cited a lack of technical ability more often than large agencies. All agencies cited funding constraints as a reason for not implementing open standards.

Open Standards

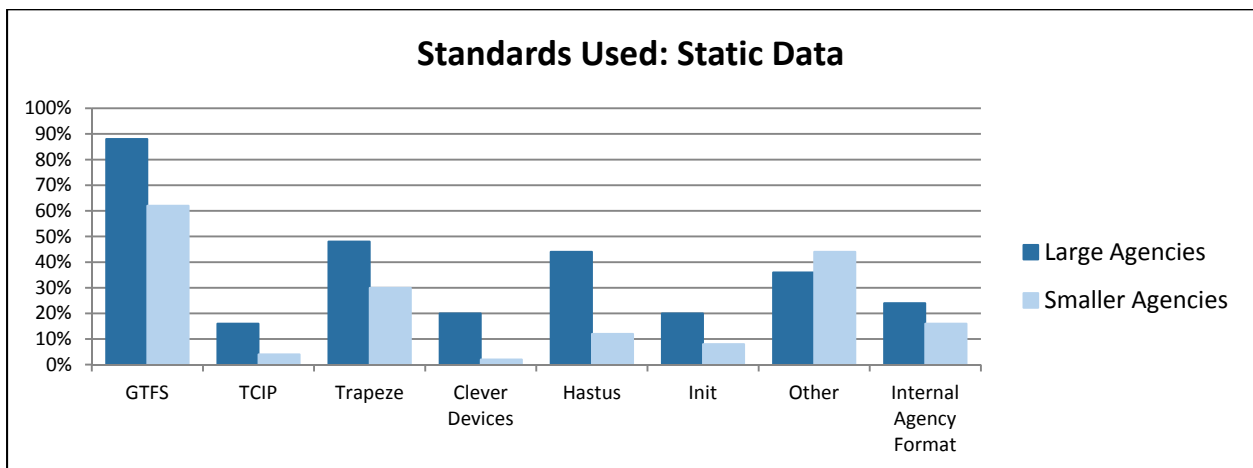


Static Data – Schedules, Routes and Fares

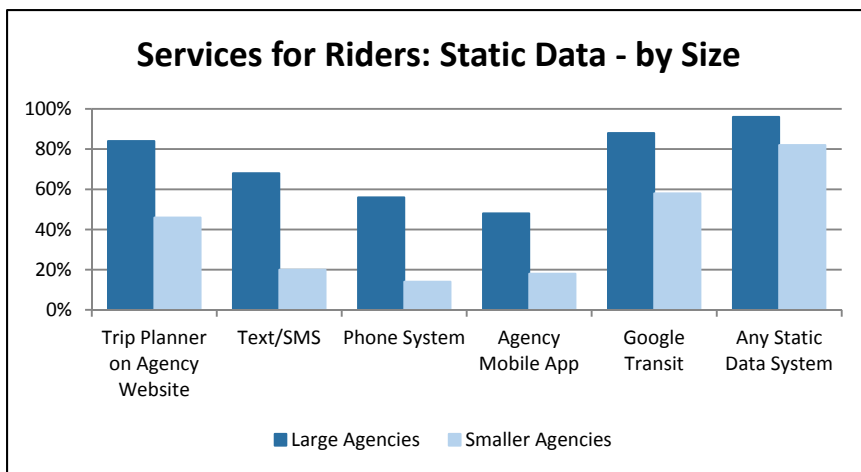
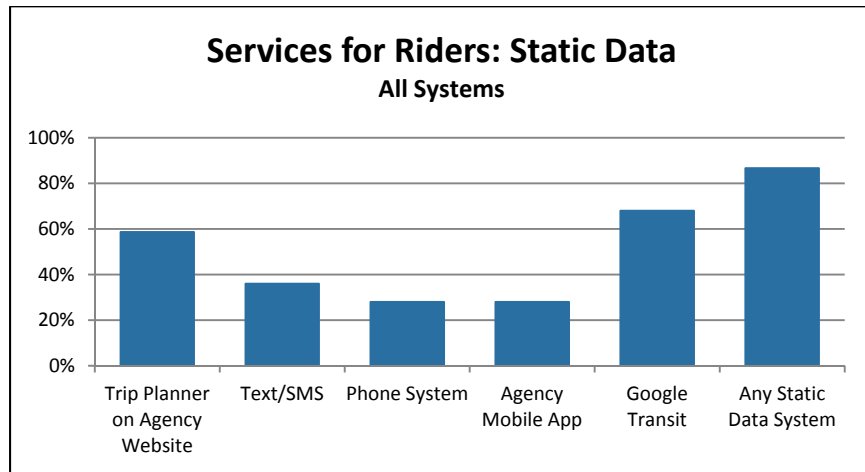
Respondents were asked what standards and formats they use for static data such as schedules, routes, and fares for their transit service. The General Feed Transit Specification (GTFS) was the most popular format used by agencies, followed by formats from Trapeze and Hastus. Four out of ten agencies use a variety of other formats, and nearly two out of ten are using an internal agency format. Only two out of the 75 respondents said they did not use formats and standards. These tools and standards help agencies organize their routes and schedules internally, but they can also be used to create value for customers. The data organized by these standards can drive tools that customers can use to plan a trip, or they can create data streams that feed information to apps so customers can access this information on the go.



Looking at the split between large and smaller agencies, large agencies were more likely to use most of the listed formats, because those agencies were more likely to use multiple formats than the smaller agencies. A big majority – 88% - of large agencies used multiple formats for static data. Only 58% of smaller agencies did so. Large agencies were much more likely to use tools from Clever Devices and Hastus than smaller agencies. Smaller agencies were more likely to use a format in the “other” category – these agencies used a variety of platforms provided by smaller software companies.

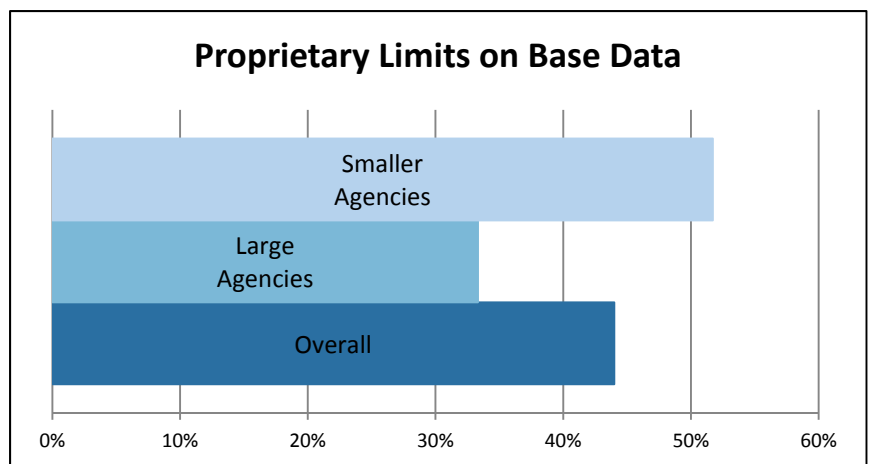


More than 85% of agencies are providing their static data (schedules/routes/fares) to customers in some electronic manner. Sixty-eight percent of agencies provide their data for Google Transit directions, and nearly 60% have a trip planner on their website. Around one-third of respondents provide this information via text message, and around 28% have an automated phone system or a mobile app created by their agency.

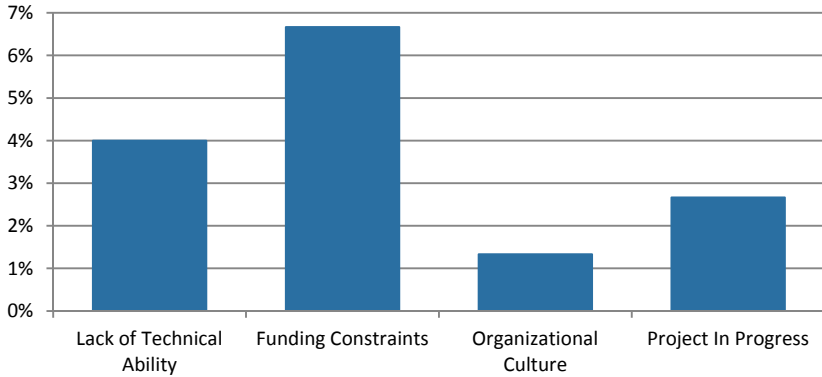


As expected, smaller agencies are less likely to provide these services to customers, but 58% participate in Google Transit, and over 80% of these smaller agencies provide one of these services to customers.

Smaller agencies were more likely to have limits placed on their use of the data for these products. This may indicate that companies have more influence over smaller agencies in contracting for these services.



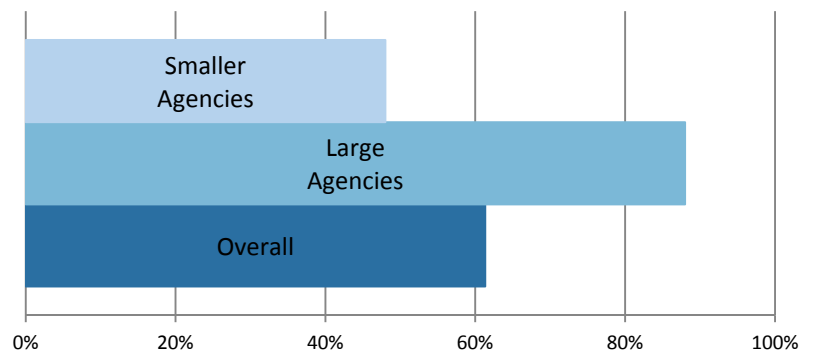
Reasons for Not Providing Information



Some agencies indicated that they do not provide static data to customers, for a variety of reasons. Six percent cited funding issues as a reason, and 30% cited a lack of technical ability. Twenty percent indicated that they are currently working to implement these services.

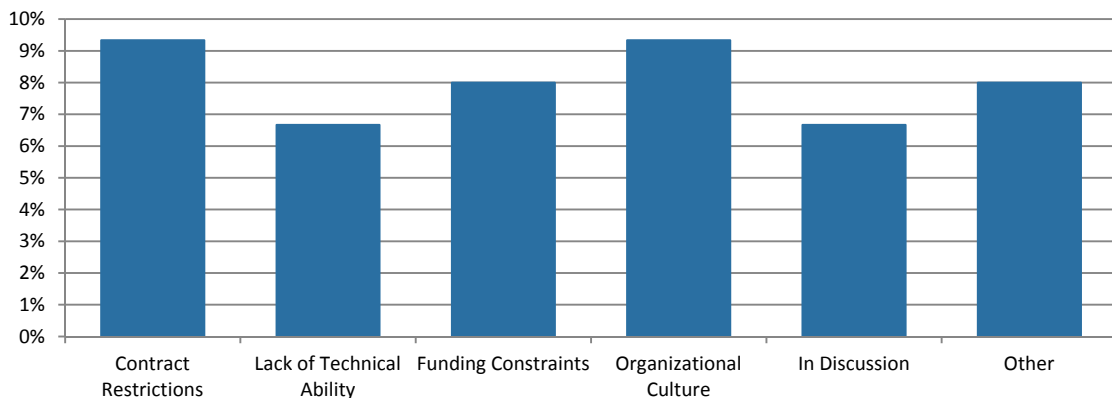
Overall, just over six in ten agencies said that they make their static data available to 3rd-party apps. Large agencies were more likely to encourage 3rd-party activities – 88% of those agencies make their data available.

Static Data Available to 3rd-Party Apps

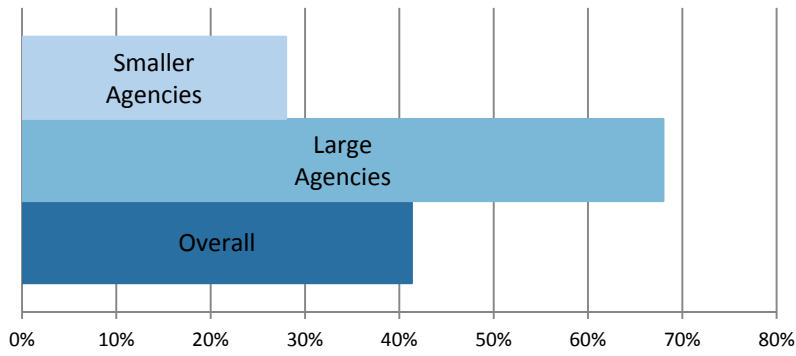


The 27% of agencies that do not provide their data for 3rd-party use offered a variety of reasons. Nine percent of all agencies pointed to contract restrictions and organization culture as reasons for not providing the data. Seven percent are discussing within their agency whether to provide this information in the future. One agency in the “other” category said that developers do not update their apps to reflect changes in the agency’s data, and app users were blaming the transit agency.

Reasons for Not Providing Information



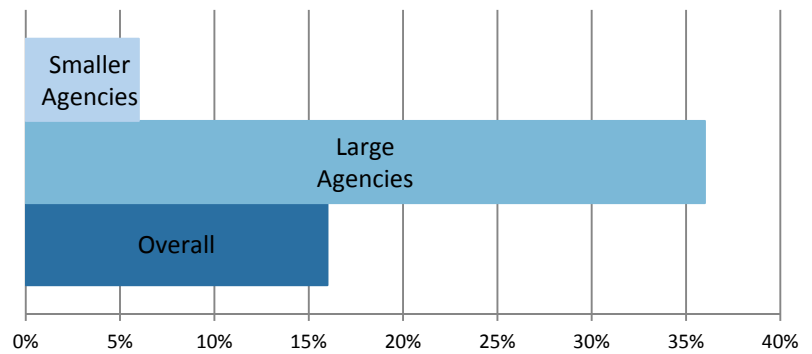
App Developers Using Static Data



Just over four in ten agencies said that app developers were using agency static data. Large agencies were more likely to have developers using their data – 68% percent of large agencies indicated that this was the case.

Sixteen percent of agencies are highlighting 3rd-party apps in some way. Large agencies were more likely to highlight apps, with over a third doing so.

Agency Highlights 3rd-Party Apps



Overall, a large percentage of agencies (80%) are providing static data like schedules, routes, and fares to customers in some fashion. Around two-thirds participate in Google Transit, and a similar number make their data available to third-party developers. Agencies can do a better job of highlighting those uses of their data – less than two in ten agencies have some way of highlighting 3rd-party apps.


TriMet App Center

Transit tools for the web and mobile devices


Since TriMet made its schedule and arrival data available to the public several years ago, independent programmers have created a number of useful transit tools for riders. Below are some of the free and commercial applications that are available from third-party developers using TriMet's [open data](#).

Questions? Comments? Let us know what you think. Email us at developerapps@trimet.org.


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allSchedules
Provides schedule information.
For iPhone, iPod Touch, iPad



Arrival
Provides arrival information.
For iPhone, iPad



ArrivalTracker
Searches for nearest stops, provides arrival information, displays a map and vehicles on map.
For iPhone, iPod Touch

RELATED

- ▶ [TriMet Mobile \(m.trimet.org\)](http://m.trimet.org)
- ▶ [TransitTracker: TriMet's real-time arrival information system](#)

Get updates by email

Get the latest on TriMet's tools and services for mobile devices, including new apps added to the TriMet App Center.

TriMet's App Center highlights tools powered by the agency's data.

<http://trimet.org/apps/>

Conclusions

On the static data front, most agencies are putting their information out to the world either on Google Transit or via a trip planner on their website. Agencies that do not do so need to be convinced of the usefulness of this information to their customers and the ease of setting some of these systems up. For real-time arrival data, agencies need more technical experience and more funding to set up these systems. Those agencies that have real-time information already but do not provide APIs for use by third parties need to be shown what other agencies have done to make app development successful.

Acknowledgements

The policy department would like to thank the 75 transit agency members who participated in this survey. Their responses provide great insight into the current state and future of the transit industry.

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The American Public Transportation Association (APTA)

The American Public Transportation Association (APTA) is a nonprofit international association of more than 1,500 public and private member organizations, engaged in the areas of bus, paratransit, light rail, commuter rail, subways, waterborne services, and intercity and high-speed passenger rail. This includes: transit systems; planning, design, construction, and finance firms; product and service providers; academic institutions; transit associations and state departments of transportation. APTA members serve the public interest by providing safe, efficient and economical transit services and products. More than 90 percent of the people using public transportation in the United States and Canada ride APTA member systems.

APTA Vision Statement

APTA is the leading force in advancing public transportation.