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FHWA's Fostering Multimodal Connectivity Newsletter

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Introduction

The Federal Highway Administration's (FHWA's) *Fostering Multimodal Connectivity Newsletter* provides transportation professionals with real-world examples of how multimodal transportation investments use accelerated project delivery, technology and design innovation, and public/private partnerships to promote economic revitalization, provide access to jobs, and achieve safer communities. The newsletter also showcases how FHWA and its partners are supporting the USDOT Strategic Plan by improving connectivity, accessibility, safety, and convenience for all transportation users.

Want to access additional tools and resources? Please visit FHWA's website. Past issues of the newsletter are also available. To subscribe to the newsletter, visit GovDelivery.

SFMTA Launches Geofencing Effort to Reduce Congestion and Improve Curb Management

Alex Jonlin, Transportation Planner, SFMTA Sustainable Streets Division – Parking and Curb Management

Since emerging in 2011, transportation network companies (TNCs) like Uber and Lyft have led planners and engineers to rethink urban mobility. A 2018 San Francisco County Transportation Authority (SFCTA) report found that up to 50 percent of the increase in congestion in San Francisco over the last several years was attributable to TNCs. A significant contributor to this increase in congestion is double parking. TNCs have put more pressure on the curb than ever before.

In response to these challenges, as well as the demand placed on the curb by e-commerce, the San Francisco Municipal Transportation Agency (SFMTA) has created a curb management team. The team's primary responsibilities are to create a Curb Management Strategy to guide the agency's decision-making when assigning curb space to different uses, and to undertake holistic location-based curb management projects.

One of these projects is on 10th and 11th Streets near the SFMTA's headquarters. The area is home to the headquarters of Uber, Square, and Twitter, along with large residential buildings. Nearby Market Street is the most important transit and bike corridor in the city, with 75,000 daily transit riders at street level and 650 bicyclists per hour at peak times. 11th Street has bike lanes and transit service, but double-parked cars frequently obstructed those bike lanes and contributed to bus delays. On 10th Street, one side of the street had a no loading zone while the other had a loading zone that was not properly placed or sized to accommodate demand. The SFMTA approved the relocation of existing loading zones to the far-side of intersections or driveways, and extended them to provide more capacity and make it easier for drivers to use them. Although the SFMTA has no regulatory authority over TNCs, the agency worked with Uber and Lyft to ensure their vehicles stop in the right places.

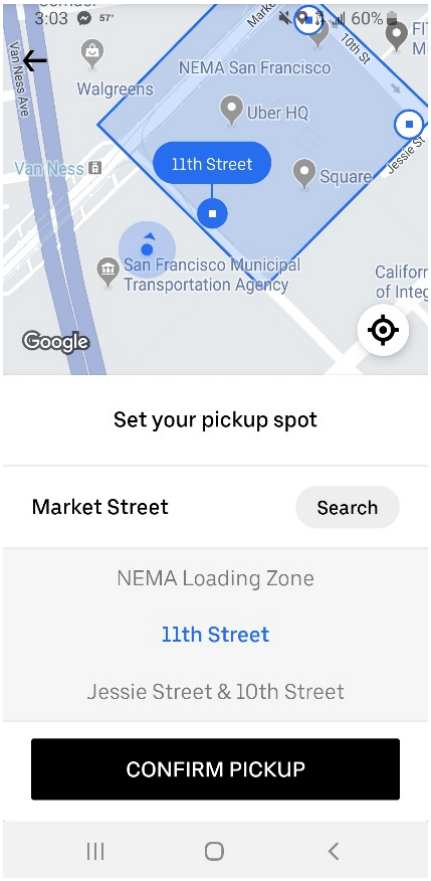

Figure 1: TNC app requires people requesting rides near SFMTA headquarters to go to a legal loading zone. (Image courtesy of SFMTA)

Uber and Lyft agreed to code into their apps that riders seeking pickups in the area must meet their driver in one of these loading zones. The companies have long deployed this technology, known as geofencing, at airports. The preliminary results on 11th Street are encouraging: the number of drivers fully blocking the travel lane in afternoon peak hours has fallen by nearly two-thirds. The SFMTA will conduct an evaluation of changes on 10th Street later in the fall.

This work builds on prior efforts to connect drivers with available curb space. SF*park*, a pilot program funded by the Federal Highway Administration (FHWA) through the Active Transportation and Demand Management (ATDM) project, tested demand-responsive parking pricing in San Francisco. A key component of the pilot was a network of sensors providing real-time parking availability data to drivers through an app. SF*park*'s pioneering work using data to connect drivers with available parking spaces inspired the SFMTA's work to connect TNCs and their riders with proper loading spaces. In the pre-TNC era, SF*park* faced the challenge of sharing parking information with the general public. Geofencing, by contrast,

can reach thousands of drivers and their riders by coordinating with the few companies who route those drivers to their destinations.

With its Curb Management Strategy, the SFMTA seeks to prioritize access for people and right-size the amount of loading space across the city. The Strategy's success will require further coordination with the private sector and clear communication with members of the public about the regulations in place on the street. The creation of more loading zones will impact revenue by removing parking meters, so more work is needed to develop means of charging for use of this space.

The SFMTA hopes to expand these geofencing efforts to encompass more places and mobility services such as taxis, paratransit, delivery trucks, and app-based courier services at the San Francisco Giants stadium, the Golden State Warriors arena, and Caltrain commuter rail stations.

The success of the SFMTA's early efforts on geofencing demonstrates that this can be a key component of curb management. Illegal loading presents safety hazards to people walking and biking and contributes to transit delay and congestion. By sharing information about loading zones with users like TNCs, and having those users commit to using loading zones, cities can make it safer and easier for people to get around, on whatever mode they are taking.

Chicago Advances Micromobility Efforts Through a Scooter Pilot and Bikeshare Expansion

Sean Wiedel, Assistant Commissioner of Citywide Services, Chicago Department of Transportation

Since launching the Divvy bikeshare program in 2013, Chicago has been building on its shared micromobility track record with a variety of initiatives including docked bikeshare, dockless bikeshare, and electric scooters (e-scooters). The Chicago Department of Transportation (CDOT) recently launched two new innovative programs. The first is a massive expansion of the city's popular Divvy program incorporating new state-of-the-art electric assist bikes (e-bikes). The second is a four-month pilot to test the viability of e-scooters as a new mobility option.

Figure 2: New Divvy bikes arrived in Chicago as part of the expansion program. (Image courtesy of the Chicago Department of Transportation)

Divvy launched in June 2013 with just 75 stations and 750 bikes. By the end of 2013, the system had grown to 300 stations and 3,000 bikes. Two further expansions have brought the system to nearly 600 stations and 6,000 bikes. Over $30 million in seed money for the Divvy bikeshare program was provided by the Federal Highway Administration (FHWA) Congestion Mitigation and Air Quality (CMAQ) Improvement Program, and administered locally by the Chicago Metropolitan Agency for Planning and the Illinois Department of Transportation. The current system serves about two-thirds of city residents and is a model public-private partnership owned by CDOT and operated by Lyft.

Chicago's City Council approved a $127 million Divvy expansion program in April 2019. The Council gave the green light to modernize and expand the bikeshare system citywide by 2021 with an additional 10,500 bikes and 175 stations for a total of approximately 16,500 bikes and 800 stations. All of the new bikes will be electric pedal-assist bikes and have hybrid locking capabilities, so they can be locked at a Divvy station or to a regular bike rack. As it takes over sponsorship of the system, Lyft will invest $50 million in this new capital and service area expansion and will pay the city an additional $77 million in direct revenue. The city will use the direct revenue to support the Vision Zero Chicago traffic safety program and related transportation improvements, including new bike lanes, pedestrian safety enhancements, and other traffic safety projects.

CDOT and Divvy launched an extensive community engagement process in the summer of 2019 that is guiding the process of siting new stations under the expansion. The first expansion will be to Chicago's South Side, providing access for traditionally underserved communities. At numerous outreach events, we worked with our Bicycling Ambassadors to educate about bike safety, brought our Bike Infrastructure team to hear suggestions for streets that need better bicycling infrastructure and gathered other input about how to make Chicago safer for people biking, walking, and driving

Soon after the Divvy expansion was approved, Chicago launched a four-month e-scooter pilot program in June 2019 to test the viability of this new micromobility option. CDOT, the city's Department of Business Affairs and Consumer Protection (BACP), the Mayor's office, and other city departments worked together to develop the pilot terms. BACP issued business permits to 10 qualified e-scooter companies that applied to participate. The pilot has proven popular, with more than 250,000 rides logged in the first month of the program.

Under the strict permit rules, each company is allowed to operate 250 scooters in a 50-square mile zone on the city's southwest, west, and northwest sides. This area was selected to provide more options for people to get around the city in an area that is less-served by transit and to test e-scooters in communities with differing densities, different types and numbers of destinations, and other variables. To ensure equitable geographic service, two priority areas were established in the pilot zone, with at least 25 percent of each vendor's scooters placed into each zone every morning. These priority areas were selected in order to ensure that the pilot serves diverse and traditionally underserved communities. CDOT also required each company to have plans for unbanked individuals or those without smartphones to access the service.

The permit includes a number of rigorous requirements designed to promote safety and to keep the public right of way clear of obstructions, including:

- Scooter speed cannot exceed 15 mph;
- Scooters cannot be ridden on sidewalks;
- Scooters must be operated only from 5 a.m. to 10 p.m. each day and removed from the public way each night;
- Scooters cannot be operated outside of the pilot area; and
- Vendors must respond to and correct improperly parked scooters within two hours.

Vendors are providing the city with real-time data on operations, ridership, and safety. The city requires all vendors to provide robust data using both the Mobility Data Specification (MDS) and General Bikeshare Feed Specification (GBFS). We also posted the links to the company's public GBFS feeds so that travel integrators such as Transit app can pull the data, to show scooter availability for all vendors, making it easier for people to use the system. The city may suspend or revoke the licenses of vendors that fail to adhere to the pilot's strict terms. At its conclusion, BACP, CDOT, and other city partners will thoroughly evaluate the pilot. The city will be analyzing ridership, vendor operations, equitable access, safety, and injury data to determine next steps around shared micromobility in Chicago.

Norwalk Sets the Pace for On-Demand Public Transportation in Connecticut

Kimberlee A. Morton, Chief Executive Officer, Norwalk Transit District

On September 13, 2018, Norwalk Transit District launched its microtransit demonstration project, Wheels2U, the first of its kind in the State of Connecticut. Wheels2U is a public, on-demand shuttle service that came out of a collaborative working group between the city of Norwalk's Redevelopment Agency and Parking Authority with the objective to address growing traffic and parking congestion in Norwalk.

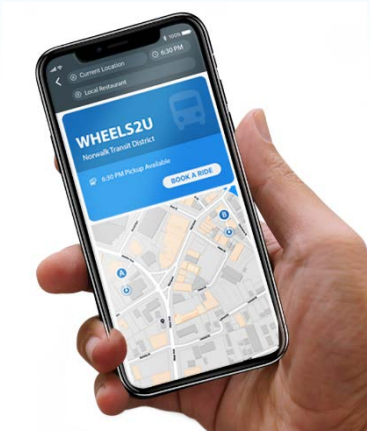

Figure 3: Wheels2U mobile application. (Image courtesy of Norwalk Transit District)

The city of Norwalk has grown and changed dramatically over the past decade with the construction of transit oriented development (TOD) zones in close proximity to the city's three train stations, all linking to New York City. TOD zones are areas of high-density, mixed-use development within walking distance (a ½ mile) of a transit station. TOD provides a range of benefits including increased transit ridership, reduced regional congestion, and healthier, more walkable neighborhoods. These TOD zones have helped to attract a younger population to Norwalk and the city sought new ways to attract this consumer group to use transit.

Microtransit is a new tool available to the transit industry that agencies are incorporating into their systems to better meet the needs of all their customers. The Federal Transit Administration (FTA) defines microtransit as IT-enabled private multi-passenger transportation services that serve passengers using dynamically generated routes. Similar to shared mobility services, Wheels2U riders use a mobile app to request pickup and drop-off locations, as well as access real-time data on traffic and ride information. This technology allows providers to optimize existing transit services and create new services with an emphasis on rider experience.

Financial support for the operations of the service came from FTA and the Connecticut Department of Transportation. The vehicles were part of the district's existing fleet utilized for on-demand transportation for the elderly and disabled. The large majority of this fleet lays dormant in the evenings and on weekends, which is when the city operates the Wheels2U service. FTA provides 80 percent of the funding for the vehicles and the State of Connecticut provides the remaining 20 percent. The demonstration startup funds for the software, app development and marketing campaign came from the city of Norwalk, which had a dedicated funding source from private developers to assist in transportation initiatives in the area surrounding the construction of a new mall. This funding source also covers the fares for the microtransit service allowing the city of Norwalk to reimburse customers for the fares.

The target audiences for Wheels2U are residents of the newly populated, multi-housing, TOD zones, which are in close proximity of the Norwalk railroad stations. The service primarily serves passengers on limited evenings and weekends to entertainment locations such as Wall Street Theater, South Norwalk's restaurant districts, and events at the beach, Maritime Aquarium, Stepping Stones Children's Museum, Veteran's Park, and Norwalk Symphony.

In less than a year since its launch, Wheels2U has grown to serve approximately 1,000 riders per month, with an average of 3-4 riders served per hour. The service continues to experience monthly ridership growth and improvements to operational efficiencies. Because of the simplicity of the microtransit service, Norwalk has been able to easily alter target audiences and destinations. The service both fulfills the transportation needs for new target audiences by offering convenient and flexible services, and also serves as a support system to businesses that can rely on the service to safely transport customers to enjoy entertainment and social districts. The Norwalk Transit District is currently looking toward other areas of expansion in order to address first- and last-mile connections for some of the outlying areas in Norwalk that have had service reduced due to low ridership.

This service is the result of a cohesive effort of strategic community partners, including the local redevelopment agency, parking authority, union, and private companies, as well as funding support from the city of Norwalk, Connecticut Department of Transportation, FTA, and the SoNo Collection shopping center. Wheels2U meets objectives to re-imagine public transportation, address a changing community demographic, and ensure a welcoming community for everyone who chooses to live, work, or play in the city of Norwalk.

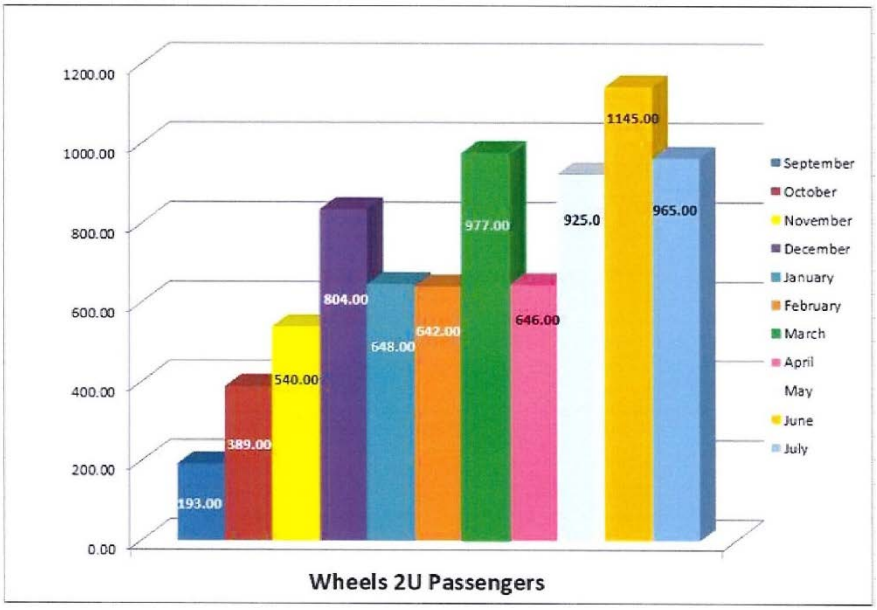

Figure 4: Graphic shows Wheels2U ridership from September 2018 - July 2019. (Image courtesy of Norwalk Transit District)

Wheels2U is in the process of transitioning from demonstration project to a permanent component of the district's transit operating platform of service choices. The city is exploring strategies to expand the service into additional communities and monitoring the impacts that this new service has on existing fixed-route ridership. Wheels2U will continue to positively impact the city's long-term social mobility and economic vitality, while addressing growing concerns stemming from traffic and parking congestion. This service will continue to bring new opportunities to the Norwalk business community and offers a unique opportunity for residents of the Norwalk community to leave their cars at home and let Wheels2U help them get to their destinations.

Resource Highlight: Regional Shared Mobility Planning in Dallas-Fort Worth, Texas

Kevin McCoy and Rachel Galton, Community Planners, U.S. Department of Transportation Volpe Center, Cambridge, Massachusetts

The Federal Highway Administration (FHWA) recently published three metropolitan area case studies focusing on integrating shared mobility into multimodal transportation planning. The case studies focus on how metropolitan planning organizations (MPOs), regional planning partners, and third party service providers are working together to integrate shared mobility options into regional multimodal transportation networks. The case studies follow a number of recent innovations in shared mobility including microtransit, which the Federal Transit Administration (FTA) defines as IT-enabled private multi-passenger transportation services that serve passengers using dynamically generated routes. The case studies highlight Boston, Massachusetts; San Francisco, California; and Dallas-Fort Worth, Texas.

The North Central Texas Council of Governments (NCTCOG) provides a notable example of regional coordination and cooperation to engage with and respond to the emergence of new shared mobility transportation options. Highlights from the Dallas-Fort Worth, Texas case study are summarized below.

- *Stakeholder Coordination:* As in many large metropolitan areas, transit agencies in the Dallas-Fort Worth region are partnering with shared mobility companies to offer transportation services to the public. In 2016, Dallas Area Rapid Transit (DART) received a Mobility on Demand (MOD) Sandbox Program grant from the Federal Transit Administration (FTA) to integrate its ticketing app with transportation network companies (TNCs), microtransit, bikesharing, and other third party service providers, in order to better facilitate first- and last-mile connections for transit riders.

  The MOD Sandbox grant and other shared mobility developments in the region led NCTCOG, the region's MPO and the designated recipient for FTA urbanized area formula grant program (section 5307) funds, to organize quarterly meetings of shared mobility stakeholders including the public transit operators, local governments, Federal agency partners, researchers, and the shared mobility providers themselves. The Mobility on Demand (MOD) Working Group provides a forum to discuss partnerships, barriers, and lessons learned. Over time, these meetings have become an important venue through which NCTCOG and its partners can engage in discussions that inform regional multimodal transportation planning, transit service planning, and regional transportation policy.

- *NCTCOG's Plans and Programs:* Expanding the reach of the region's transit services is a priority for NCTCOG as well as the region's transit operators. Forecasts show that 20 percent of the population will likely live outside of the current transit service area by 2045 in this fast-growing region. This is reflected in Access North Texas, the regional transit coordination plan, and Mobility 2045, the metropolitan transportation plan. These plans identify seamless coordination of transit service in the region and transit access expansion as goals.

  Access North Texas specifically identifies shared mobility as an option for overcoming first- and last-mile barriers and for improving transit service. Mobility 2045 identifies shared mobility as an emerging technology with the potential to serve a large portion of regional trips, while acknowledging that the MPO is not yet able to model the impacts of increased shared mobility mode share. This is due to a combination of factors, most importantly the lack of data availability from shared mobility companies and insufficient research on shared mobility usage patterns.

- *Shared Mobility Partnerships and Pilots in the Region:* Several pilots and partnerships in the region expand the reach of the transit system where fixed routes are not feasible. The case study includes examples of integrating shared mobility options into ticketing applications; developing microtransit pilots and services, including for paratransit and to support first- and last-mile connections; launching low-speed automated shuttle pilots; and others. Transit operators in the NCTCOG planning area have been active in the MOD Working Group where they continue to share best practices from these partnerships, pilot projects, and strategic planning efforts.

Figure 5: Denton County Transportation Authority (DCTA) worked with Trinity Metro and several other partners on a nine-month, on-demand TNC pilot project called Alliance Link. The project served major employers in the Alliance Airport area and demonstrated a need for first- and last-mile transit connection service for low-wage shift workers. (Image courtesy of Toyota)

The Dallas-Fort Worth region is continuing to work on shared mobility integration through a number of initiatives. The MOD Working Group is actively coordinating multimodal transportation planning at the regional scale, and transit providers are pursuing additional pilots and partnerships with shared mobility companies. NCTCOG is partnering with the University of Texas-Austin to incorporate shared mobility into travel modeling and forecasting and considering how to best provide support to smaller jurisdictions that have not yet piloted these technologies.

NCTCOG's experience with regional shared mobility planning has demonstrated the important role of MPOs in facilitating regional cooperation and policies around emerging issues like shared mobility; the value of public-private partnerships; the power of transit providers' leadership in shared mobility pilots; and the potential to integrate shared mobility into regional multimodal and transit service plans. To read the full case study, see the FHWA Integrating Shared Mobility into Multimodal Transportation Planning: Metropolitan Area Case Studies report.

Announcements/New Resources

- The Federal Highway Administration (FHWA) recently published three case studies on Integrating Shared Mobility into Multimodal Transportation Planning: Metropolitan Case Studies. As described in the above Resource Highlight, the case studies focus on how metropolitan planning organizations (MPOs), regional planning partners, and shared mobility companies are working together to integrate shared mobility options into regional multimodal transportation networks. The case studies highlight Boston, Massachusetts; San Francisco, California; and Dallas-Fort Worth, Texas.

- On October 2, 2019, FHWA staff participated in the Walk to School Day celebration. The event is one of hundreds of International Walk to School Day events held around the world to educate children, families, and community members about important safety-related issues including distracted walking.

- FHWA released the Performance-Based Planning and Programming Implementation Roadmap for FHWA Divisions. The web-based resource will help FHWA Division Offices to partner with States, MPOs, and public transportation providers to support national performance goals, achieve desired performance outcomes, and meet the Federal planning and programming requirements for transportation performance management.

- FHWA has announced the 2019 Environmental Excellence Award recipients. Since 1995, the EEAs have recognized leaders across the country who make outstanding contributions to environmental stewardship and partnerships above and beyond traditional transportation project outcomes.

- FHWA published revised guidance on Bicycle and Pedestrian Planning, Program, and Project Development. The guidance describes the range of opportunities to improve conditions for bicycling and walking, consistent with U.S. Department of Transportation goals for safe, comfortable, equitable, and integrated multimodal transportation network infrastructure that serves all ages and abilities.

- FHWA staff will present on addressing health disparities and equity through policy and infrastructure investments during the Transportation Research Board's Conference on Health and Active Transportation in Washington, D.C., December 11-12, 2019. The conference will bring together an interdisciplinary group of practitioners and researchers in urban planning, public health, transportation and civil engineering, and health care to collaborate on health effects of transportation policies, planning, and infrastructure; and discuss opportunities and barriers for considering health within the transportation field.

- FHWA and Federal Transit Administration staff will present a session on planning for emerging mobility innovation at the Association of Metropolitan Planning Organizations annual conference in Baltimore, MD, October 21-25, 2019. The conference will bring together MPO staff, policy board members, Federal and State employees, and consultants to share information and best practices on a variety of current and emerging MPO issues.