

AASHTO Innovation Initiative

[Proposed] Nomination of Innovation Ready for Implementation

Sponsor

Nominations must be submitted by an AASHTO member DOT willing to help promote the innovation. If selected, the sponsoring DOT will be asked to promote the innovation to other states by participating on a Lead States Team supported by the AASHTO Innovation Initiative.

1. **Sponsoring DOT (State):** North Carolina Department of Transportation
2. **Name and Title:** Ryan Brumfield, Innovations and Data Branch Manager, Integrated Mobility Division

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Innovation Description (10 points)

The term “innovation” may include processes, products, techniques, procedures, and practices.

3. **Name of the innovation:**

On-Demand Microtransit in Wilson, North Carolina

4. **Please describe the innovation.**

On September 1, 2020, the City of Wilson and Via launched RIDE – a new microtransit service replacing the City’s fixed-route bus and on-demand transit system. On August 27, 2020, the Federal Transit

Administration (FTA) awarded an Accelerating Innovative Mobility (AIM) grant to the City of Wilson which will allow for expansion of the microtransit service area and operating hours. Via's vehicle fleet and drivers make trips to and from a network of virtual bus stops throughout the city using Via's phone application and patented technology. Users of RIDE can schedule and pay for trips, check the location of their vehicle in real-time, evaluate driver performance, and provide feedback about the service through a phone application. Unbanked riders can purchase prepaid vouchers and riders without a smartphone can schedule rides online or by phone. This innovative service is one of the first of its kind in North Carolina and is expected to reduce wait times, provide greater service reliability, improve the overall rider experience, and increase access to opportunities and services for residents.

5. What is the existing baseline practice that the innovation intends to replace/improve?

The baseline in Wilson has historically been an inefficient fixed-route bus system with long wait times and unreliable service, coupled with an on-demand service that requires trip scheduling well in advance of the trip need. Wilson's bus system dates to the 1960s when most industry was downtown, but Wilson's economic center has dispersed. Lately the fixed-route system has not adequately served all residents, particularly those needing access to jobs and services away from the city center.

6. What problems associated with the baseline practice does the innovation propose to solve?

Like other rural and small-urban areas, public transportation in Wilson has faced many challenges, including lack of first and last mile infrastructure, low density of destinations and population across a broad geographic area, and difficulty providing efficient service due to budget constraints. The innovative microtransit service in Wilson is expected to reduce wait times, provide greater service reliability, improve the overall rider experience, and increase access to opportunities and services for residents.

7. Briefly describe the history of its development.

Large cities across the world have implemented microtransit services with Via and other providers. There have been very few similar efforts in lower density rural areas, particularly with the use of Federal Transit Administration (FTA) funding and the associated requirements. Wilson recognized the inefficiencies in their traditional transit system and started exploring opportunities for improvement a couple of years ago. They solicited proposals from potential service providers to gauge market interest and were fortunate to find a vendor in Via that could offer the envisioned service within the City's budget. Service launched in September 2020.

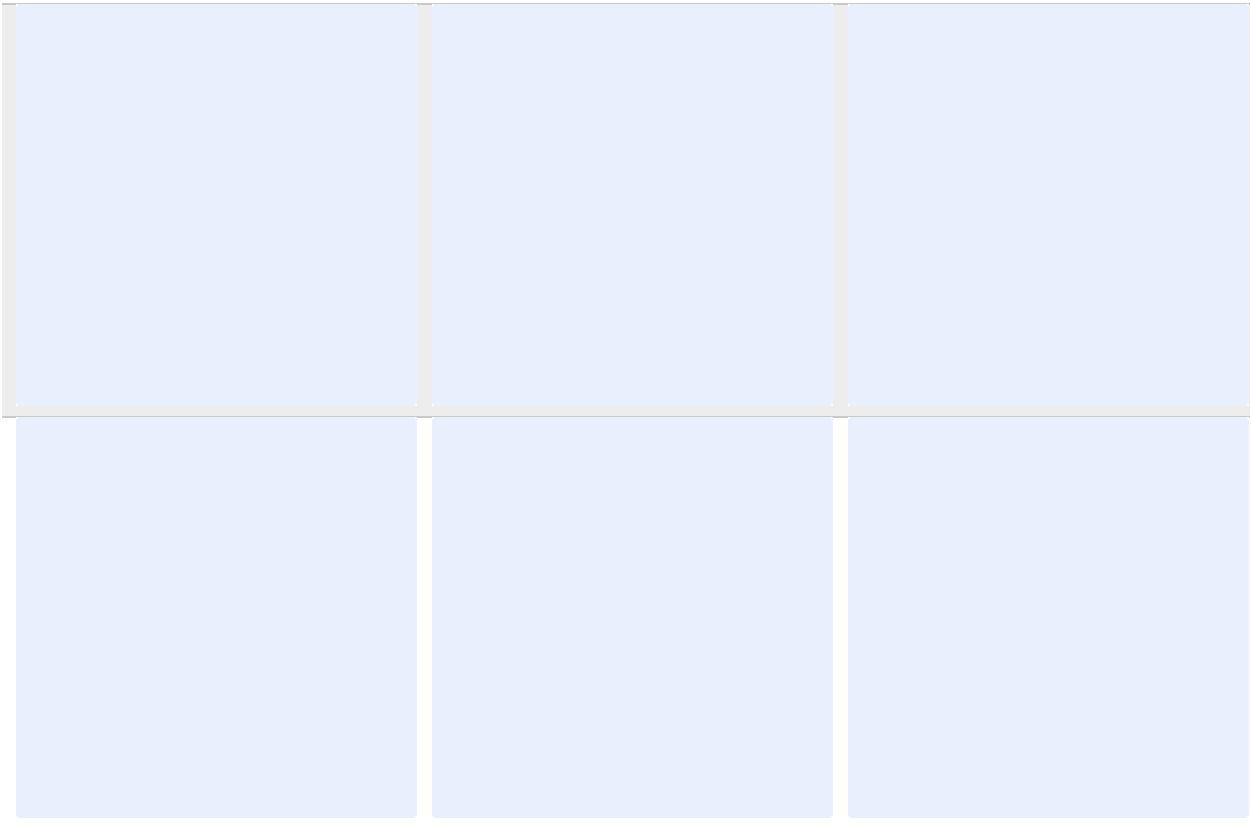
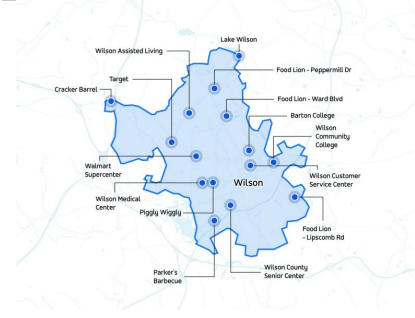
8. What resources—such as technical specifications, training materials, and user guides—have you developed to assist with the deployment effort? If appropriate, please attach or provide weblinks to reports, videos, photographs, diagrams, or other images illustrating the appearance or functionality of

the innovation (if electronic, please provide a separate file). Please list your attachments or weblinks here.

Wilson, Via, and NCDOT worked closely to develop the project and plan for implementation. NCDOT developed a guidance document for Wilson that is applicable more broadly for other municipalities interested in shared-ride/microtransit pilots (see attached at end of form). A priority focus area prior to launch was ensuring the service meets eligibility requirements for FTA's 5311 funding program which comprises a significant portion of Wilson's transit budget. Key funding eligibility considerations include:

1) Meeting the definition of public transportation by offering shared rides to the public; 2) Satisfying core federal requirements, particularly related to the Americans with Disabilities Act (ADA), Title VI, drug and alcohol testing, data governance and reporting, and driver safety training; 3) Ensuring all residents have equal access to the new service, particularly those with disabilities and individuals who are unbanked or do not have a smartphone; and, 4) Preparing the public for the new service by starting with a "trial" period, including free service for a limited time, and by providing ample opportunity for pre-launch and ongoing public feedback.

Attach photographs, diagrams, or other images here. If images are of larger resolution size, please provide as separate files.



State of Development (40 points)

Innovations must be successfully deployed in at least one State DOT. The All selection process will favor innovations that have advanced beyond the research stage, at least to the pilot deployment stage, and preferably into routine use.

9. How ready is this innovation for implementation in an operational environment? Please select from the following options. Please describe.

- Prototype is fully functional and yet to be piloted
- Prototype has been piloted successfully in an operational environment
- Technology has been deployed multiple times in an operational environment
- Technology is ready for full-scale implementation

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10. What additional development is necessary to enable implementation of the innovation for routine use?

Additional data collection from the Wilson pilot to understand the effectiveness of this innovation in rural areas. Greater understanding of the challenges that very low density areas may face in implementing this type of technology.

11. Are other organizations using, currently developing, or have they shown interest in this innovation or of similar technology?? Yes No

If so, please list organization names and contacts. Please identify the source of this information.

Organization	Name	Phone	Email
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Potential Payoff (30 points)

Payoff is defined as the combination of broad applicability and significant benefit or advantage over baseline practice .

12. How does the innovation meet customer or stakeholder needs in your State DOT or other organizations that have used it?

Reduced wait times for transit services, greater service reliability, improved overall rider experience, and increased access to opportunities and services for residents.

13. Identify the top three benefit types your DOT has realized from using this innovation. Describe the type and scale of benefits of using this innovation over baseline practice. Provide additional information, if available, using quantitative metrics, to describe the benefits.

Benefit Types	Please describe:
Improved Quality	Higher quality service with less wait times and greater reliability.
Improved Customer Service	Greater reliability of service, improved rider experience.
Improved Operation Performance	Reduced wait times and improved service reliability.

Provide any additional description, if necessary:

[Click or tap here to enter text.](#)

14 How broadly might this innovation be deployed for other applications. in the transportation industry (including other disciplines of a DOT, other transportation modes, and private industry)?

Microtransit services and similar shared-ride services that combine app-based technology with a public-private-partnership arrangement to offer on-demand transit has the potential for broad application in many areas, particularly areas with sufficient density to ensure profitability for private sector partners. TNCs have historically deprioritized operations in rural areas due to limited financial incentive. Leveraging TNC technology with public sector funding to subsidize service can make it more financially viable for TNCs, bringing their robust technology and resources to rural areas and potentially offering a more efficient version of public transportation.

Market Readiness (20 points)

The All selection process will favor innovations that can be adopted with a reasonable amount of effort and cost, commensurate with the payoff potential.

15. What specific actions would another organization need to take along each of the following dimensions to adopt this innovation?

Check boxes that apply	Dimensions	Please describe:
<input checked="" type="checkbox"/>	Gaining executive leadership support	Any new technology that is outside the norm requires leadership backing to ensure success.
<input checked="" type="checkbox"/>	Communicating benefits	For rural areas in particular, there is a perception that microtransit is not viable outside of high-density areas. Benefits must be communicated and examples amplified to change perceptions.
<input type="checkbox"/>	Overcoming funding constraints	Click or tap here to enter text.
<input type="checkbox"/>	Acquiring in-house capabilities	Click or tap here to enter text.
<input checked="" type="checkbox"/>	Addressing legal issues (if applicable) (e.g., liability and intellectual property)	Under the typical microtransit model, TNCs hire independent contractors for drivers which can create some potential legal issues. This requires planning and consideration as service is developed.
<input checked="" type="checkbox"/>	Resolving conflicts with existing national/state regulations and standards	FTA and other federal funding programs were designed with fixed route and traditional on-demand services in mind. Navigating regulations to ensure microtransit and shared-mobility services can meet requirements can be tricky.
<input type="checkbox"/>	Other challenges	Click or tap here to enter text.

16. Please provide details of cost, effort, and length of time expended to deploy the innovation in your organization.

Cost: No cost beyond typical federal, state, and local funding sources which Wilson receives each year.

Level of Effort: Considerable effort to procure services, plan for launch, and ensure all FTA requirements were satisfied in order to use FTA funding to support the service.

Time: Difficult to assign a specific amount of time but for the two to three month period prior to launch, individuals with Wilson and NCDOT spent several hours each week planning for deployment. Some Wilson staff spent much greater amounts of time each week helping prepare for launch.

17. To what extent might implementation of this innovation require the involvement of third parties, including vendors, contractors, and consultants? If so, please describe. List the type of expertise required for implementation.

The key benefit of this innovation is using app-based technologies for route optimization, scheduling and payment. As far as I know, only third party vendors have the capability to provide this service currently. However, the amount of third party involvement can vary quite a bit. In Wilson's case, Via is providing the app, trip brokerage support by phone, vehicles, and drivers. Other models may require only the app or other technology from a third part vendor and other components would be provided by the transit system.

Key Points of Guidance Regarding Microtransit Service

These are items that warrant greater focus to ensure continued compliance with Federal Transit Administration (FTA) and North Carolina Department of Transportation (NCDOT) funding requirements.

- **Shared-rides** – Service must be considered “public transportation” to be eligible for 5311 and CARES Act funding. In general, microtransit service is eligible if it provides shared-ride service open to the general public. For further details about the definition of public transportation and shared-ride services, see FTA’s [Shared Mobility Definitions](#) and FTA’s [Shared Mobility FAQs](#). Also see 49 USC 5302.
- **Americans with Disabilities Act (ADA)** – Demand response services like microtransit must be accessible to people of all abilities and be equivalent in response time, fares, geographic area of service, hours and days of service, trip purpose prioritization, availability of information and reservations capability, and any constraints on capacity or service availability. See 49 CFR 37.77(c).
- **Civil Rights and Title VI** – Projects, programs, activities, and related employment decisions funded in part by FTA are prohibited from discrimination on the basis of race, color, religion, national origin, sex (including sexual orientation and gender identity), disability, or age. Discrimination may extend indirectly to the way services are provided. Access to service must be equal and equitable, including how customers pay for and obtain service. In this case, be particularly mindful of the impacts that cashless payment and app-based scheduling could have on specific populations and ensure these groups are not unduly impacted by the service model. It is also important that this project align with Wilson’s Title VI plan required by FTA and NCDOT. See 49 USC 5332 and Title VI of the Civil Rights Act of 1964.
- **Drug and Alcohol Testing** – Transit agencies must ensure all drivers, including contracted drivers under a third-party contract, are included in a drug and alcohol testing program. See 49 CFR 655.
- **Data and Reporting** – Ridership and finance data must be reported to the National Transit Database and through NCDOT’s OpStats report each year. Other data requests, reports, and audits are required by NCDOT or FTA periodically. Wilson and Via should ensure that sufficient data and records are collected and maintained to meet all NCDOT and FTA data, reporting, and audit requirements.
- **Compliance with Funding Agreements and Plans** – As a general reminder, funding agreements between NCDOT and Wilson – as well as required planning documents such as Wilson’s Title VI Plan and Policies and Procedures Manual – establish many of the standards which Wilson must meet in order to receive FTA and NCDOT funding. Many of these standards extend to third-party contracts and should be reviewed to ensure continued compliance.

Other Considerations

These are items that should be considered under the new service model to ensure client expectations continue to be met or exceeded.

- **Transitioning Services** – consider how best to transition from current service to the new microtransit service so that no one is excluded or disincentivized from using the new service. Consider reducing or eliminating fares for a certain period, overlapping existing and new services during a “trial” period, and having extra staff and resources readily available after launch to ensure all clients can adapt seamlessly to the new service. If there are groups of riders that may find the transition particularly difficult, special accommodations should be made to ensure they are not disadvantaged in any way by the new service.
- **Ride Booking and Payment** – New models of paying for and booking trips may be a particularly difficult transition for some riders. Additional resources should be available during the initial launch period for travel training and other technical assistance to help riders acclimate to the new system. If there are unique barriers in place for some riders that prevent them from using the new model of payment and booking (e.g., no cell phone or land line, no cell coverage or internet access, limited access to stores selling prepaid debit cards, etc.), special accommodations should be made so these riders have equal access to service.
- **Marketing and Public Notification** – The public should receive as much advance notification about the new service model as possible. Those who will be most impacted by the change should have ample opportunity to absorb information about the new model, ask questions, express concerns, and raise any unforeseen issues in advance of service starting. At a minimum, it is important that a targeted and comprehensive marketing effort is established preceding service to maximize public awareness and understanding of the new service. Refer to Wilson’s Policies and Procedures Manual regarding fare increases and service reductions for established public comment and public notification procedures.
- **Drivers** – Drivers will be contractors under the new service and, therefore, many existing transit operators will no longer be needed in their current role. These individuals likely have the proper training, certifications, and experience to easily transition to a contracted position. Effort should be taken to reassign impacted employees to other positions or offer priority consideration to them when recruiting drivers for the new service.
- **Metrics of Success** – Wilson and Via should establish both qualitative and quantitative indicators of success. The new service as envisioned will improve access and mobility for residents by reducing wait times and increasing convenience and reliability of service. Data should be collected to determine if this vision is achieved, to inform policy discussions about long term service models, and to help other North Carolina communities determine if this service model is appropriate for them.

Additional Resources

The documents and webpages linked below provide additional guidance regarding third-party contracting and shared mobility services.

- ***Third-Party Contracts***

- [NCDOT Transit Procurement Page](#) – Included here are federal requirements that are typically added to different types of third-party contracts.
- [FTA FAQs regarding third party procurements](#)
- [FTA Best Practices Procurement & Lessons Learned Manual](#) – In particular, see Appendix A – Federally Required and Other Model Contract Clauses. Here you will find a complete listing of the clauses that should be considered for inclusion in third-party contracts, including the flow-down applicability of each clause and recommended contractual language.
- [FTA Circular 4220.1](#) – Third-Party Contracting Guidance. In particular, see Item 2 in Chapter IV, “Federal Requirements That May Affect a Recipient’s Acquisitions”. Within this section, pay particular attention to section f – “Public Transportation Services – Special Requirements”
- [All Certifications and Assurances required by FTA](#). Some of these mainly apply to NCDOT or the City of Wilson but many also extend to third-party contracts or could impact third-party contracted services.
- [FTA Master Agreement](#)
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- Examples of FTA clauses included in other similar third party contracts:
 - <https://www.rtd-denver.com/sites/default/files/files/2017-06/ftaterms.pdf>
 - <https://nvcogct.gov/wp-content/uploads/2019/02/FTA-Clauses-for-PO-for-FTA-funded-purchases.pdf>
 - http://www.mrta.us/sites/default/files/pdf/PPP_AppendixD.pdf

- ***Shared Mobility Resources***

- FTA’s [Shared Mobility Definitions](#)
- FTA’s [Shared Mobility FAQs](#)
- TCRP [Legal Research Digest 53](#) – Legal Considerations in Evaluating Relationships Between Transit Agencies and Ridesourcing Service Providers
- [FTA Presentation](#) – Compliance with Requirements in Transit/Shared Mobility Partnerships
- [TCRP Partnership Playbook](#) – Informed Decision-Making for Transit Agencies Interested in Partnering with TNCs