Kansas
# Transit Reporter

February 2021

The Newsletter for Kansas Rural and Specialized Transportation Providers • University of Kansas Transportation Center

FEATURE

## How CARES Act Funding is Helping Transit Providers

By Connor Mountford

The world came to an abrupt standstill in early 2020 as COVID-19 spread rapidly, causing extended quarantines across the globe and affecting everyone's lives. This unprecedented emergency resulted in swift actions at all levels of government across the country to curb the spread of the virus and provide economic assistance to organizations and individuals most affected by virus.

One of the first federal actions taken to address the pandemic was the CARES Act, which provided economic assistance to a variety of sectors, including transit. This article provides of few examples of how the CARES Act has been used in Kansas to assist transit agencies.

*Continued on page 6*

FEATURE

## Examples of Dispatching Technology in Rural Kansas

By Connor Mountford

Dispatching is essential to providing quality demand-response transit service. Agencies in Kansas use a variety of techniques and technologies to fill their dispatching needs. This article provides an overview of the dispatching technologies available, KDOT's role in providing and coordinating dispatching technology, and a look at the technology at work in a few agencies.

**Overview of Dispatching Technology**

Transit dispatching typically involves some combination of three technologies: (1) computer-aided dispatch and scheduling, (2) automated vehicle location (AVL), and (3) mobile data terminals (MDT). Computer-aided dispatching and scheduling technology (CADS) is commonly used in demand-response transit systems to coordinate schedules, trip orders, and vehicle assignments through a single interface. Essentially, it can be thought of as a combination of a calendar and spreadsheet that helps a dispatcher organize trip schedules effectively.1

Automated vehicle location technology (AVL) combines global

*Continued on page 2*



***INSIDE***

## Examples of Dispatching Technology in Rural Kansas Continued from page 1

positioning systems (GPS) with geographic information systems (GIS) to track vehicles. This data can be used to provide optimized vehicle routes and travel time estimates. Additionally, in an emergency, dispatchers can provide first responders with the exact location of each vehicle.

Finally, mobile data terminals are tablets that allow drivers and dispatchers to record and transfer information quickly during their shift. Typically, mobile data terminals are used in combination with an integrated dispatching software that provides two-way data entering capabilities. For example, a dispatcher would create each driver's schedule for the day, entering the data on each trip directly into the system. The driver would the enter data on their pre-trip inspection, access their trip schedule for the day, and can enter data about each trip, such as the passenger's method of fare payment.

**KDOT's Role in Providing Dispatching Technology**

KDOT provides financial assistance to transit agencies for their dispatching software as part of an agency's monthly operating cost reimbursement. While KDOT does not specify what technology to use, they do have a standing contract with Reveal Management Services, a transportation software company based in Overland Park. Reveal provides an integrated dispatching and scheduling platform for transit agencies. The purpose of the Reveal contract is to help coordinate agency operations through a single provider, thus reducing redundancies in service. If an agency wishes to add Reveal as their dispatching software provider, KDOT will fully reimburse the agency for the upfront costs, said Jon Moore, of KDOT Public Transportation. The agency would then receive the normal monthly reimbursement available to other agencies.

**Technology at Work**

*Reveal: Reno County Area Transit*

Reno County Area Transit (RCAT) currently utilizes MDT, AVL, and CADS technologies in both their fixed-route and demand-response systems using software provided by Reveal. RCAT's demand-response vehicles have on-board tablets that connect to the dispatching and scheduling services. Trips are scheduled via phone call and a scheduler gathers essential trip information. After this information is processed and approved, a passenger profile is created that logs trips specific to that passenger. Each day's trips are loaded directly into the designated vehicle's tablet. Drivers are then routed to their destinations using GPS technology.

Reveal generates detailed reports on the system's performance. Barbara Lilyhorn, RCAT Director, and her team noted that this is a feature they have found useful. In general, the implementation of this system involved working closely with the Reveal team to solve problems as they arose and tailor the system to RCAT's needs. Over two years after implementation, RCAT is satisfied with the technology.

*Other Integrated Platforms: Coffey County Transportation*

Coffey County Transportation Incorporated recently implemented central dispatching software through Paraplan. Paraplan utilizes AVL, CADS, and MDT technology to coordinate trips and record data. Trips are scheduled via phone call and the data is uploaded to the driver's data terminal through Paraplan's driver app. This app allows drivers to access their daily manifest, log pick-up and drop-off data, track payments, and provides live GPS directions. Additional features of Paraplan include the ability to save trip information for frequent riders and formatting data collection to fit National Transit Database reporting fields.

*Non-Integrated Platform: Nemaha County Public Transit*

Nemaha County General Public Transit utilizes a combination of iPads and Google services that imitate more transit-specific technologies such as AVL and MDTs. Trips are scheduled with dispatch via phone call and entered into Google Drive, which is synced with each drivers' iPad. Drivers then access Google Drive and can see their trip log. Google Maps is used as navigation software. This is a low-cost option for providing technology that imitates more advanced software. While many of the useful features of integrated software, such as auto-generated reports, are not available, Diane Yunghans, Director of Nemaha County General Public Transit is satisfied with their progress to date, saying that "Nemaha County Transit continues to develop and enhance our IT transit reporting systems with emerging technologies. It's very easy to teach and very user friendly."

**These new technologies allow agencies to provide more efficient and effective service to their customers.**

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Dispatching and scheduling technologies have come a long way since the days of recording driver schedules by hand. These new technologies allow agencies to provide a more efficient and effective service to their customers. In Kansas, agencies use a variety of software applications to enhance their service. These include the KDOT-sponsored software: Reveal; other integrated software such as Paraplan; and non-integrated software that mimics the capabilities of these more advanced options. We urge you to do some research and consider what technology would work best for your agency. KDOT would prefer agencies to use Reveal to contribute to statewide coordination, though, and has sweetened the pot by offering to pay expenses for set-up.

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## Five Ways to Increase Kansas Rural Transit Riders

By Nikhila Gunda

I had the opportunity to talk with two of Kansas's mobility managers about ideas they have for increasing transit ridership in rural areas. This article lists some of those ideas that would help current and potential Kansas transit service providers and other local entities such as health care providers, non-profit and community service organizations in rural Kansas. Implementing these ideas would help encourage and provide easy access to public transportation service and/or assistance for their local community residents. In addition to ideas from the mobility managers, we are also including a few ideas from outside of Kansas.

**1. Understand your community transportation needs**

Most residents in small and rural communities depend on personal vehicles to get things done. However, for many reasons, there are people who depend on public transit to access their jobs, schools, medical facilities, shopping, recreational and other services. Rural areas are sparsely populated, and it is sometimes challenging for the transportation providers to understand and identify the needs of targeted populations, particularly for people with limited ability to drive. A study conducted by APTA and CTAA in 2017 identified the benefits of public transportation in rural areas and small towns for various demographics, as shown in Figure 1. (2)

*Figure 1- Types of Non-Drivers (APTA, CATAA 2017)*

| Public Transit User Types | Prevalence | Consequences if Public Transit is Unavailable |
|---|---|---|
| Older Americans who do not or should not drive | 10-20% of residents and increasing | Lack mobility, require more costly chauffeuring (special vehicle travel to transport a non-driver), or move to another community with better transport options |
| People with disabilities | 3-5% of residents | |
| Adolescents (12-20 years) | 5-15% of residents | |
| Stay-at-home parents in single-vehicle household | Varies | |
| Low-income households | 20-40% of households | Lack mobility or spend an excessive portion of budgets on transport |
| Drivers who temporarily lack a vehicle | Varies | Lack mobility, require chauffeuring or expensive taxis |
| Tourists and visitors | Varies | Lack mobility or visit other areas with better transport options |
| Law-abiding drinkers | Varies | Drive impaired, risking citations and crashes |

*Although it does not serve all mobility needs, public transit adds real value in rural communities by providing independent mobility for people who cannot or should not drive.*

Local communities can get to know the needs of their residents and those who visit their communities by conducting public meetings and conducting studies and surveys from time to time. The input from participants/residents can help officials understand and prioritize community travel needs. It would also help a transit agency develop a comprehensive strategic plan that can motivate and guide decision-making and service planning.

**2. Develop Community Partnerships**

One of the most effective strategies that can be implemented by a transit agency in a rural community is to reach out and partner with local entities that have clients who need transportation. Compared to urban and suburban areas, rural areas have greater gaps in elderly/senior transportation services. Also, many surveys have shown that most older Americans want to 'age in place', that is, continue living in their current communities. So, it is crucial to provide mobility options and services.

Two common barriers to accessing jobs and schools in rural areas are long commute times and lack of other transportation options. Expanding access to education through partnerships with those institutions can improve a community's economic competitiveness and livability. In a survey of small urban and rural public transit riders by APTA, it was found that 34% of all trips are work-related and 12% are to and from school.

There are many options to consider for developing a partnership such as, for example, shared funding for transportation, dedicated service to a single destination, or discounted fares for a particular group of transit riders. For example, rural medical or health care facilities that serve people who are elderly or have a disability, may be willing to contribute funding to provide transportation for them. If direct funding is not an option, promoting the public transportation options available would be beneficial too.

**'A partnership in a rural community that provides a financial incentive for riders to use transit has potential to affect a larger percentage of the population than a bigger city'. (2)**

Establishing relationships and working with other partners can be easier for rural transit agencies due to the smaller size of the community, when there are fewer people and fewer organizations.

**Foot Locker, Manhattan, Kansas**

As a part of pilot program in April 2021, Foot Locker employees in Manhattan, Kansas will be provided demand-response and fixed route trips at no cost. These types of partnerships are beneficial as the funds from the corporation can be used as local match. Similar partnerships currently exist with K-state and other public schools. – Mike Wilson, Mobility Manager, Flint Hills CTD.

**Columbia County Public Transportation (CCPT), Columbia County, Washington**

In the summer of 2018, CCPT partnered with the Prescott Swimming Pool (which is outside of CCPT s normal service area) to provide service to the pool while the Dayton swimming pool (local) was closed for repairs. CCPT provided about 650 to 680 rides for the contracted three months at no cost to the rider. Grant funding was used to cover these expenses.

**3. Seek Assistance from Kansas Mobility Managers**

The Kansas Department of Transportation has divided the state into 10 Coordinated Transit Districts (CTDs). Each of these CTDs establishes their own goals and objectives for coordinated general transportation.

Currently there are three Kansas Mobility Managers (and more in the works) to help the CTDs and agencies in them achieve their goals. Mobility Managers serve as policy coordinators, operations service brokers, and customer travel navigators (5). They help communities in

- Developing transportation coordination plans and programs
- Promoting policies that favor transit-oriented developments and public transportation
- Coordinating the travel and trip planning needs of individuals and transit agencies

More information on the roles and responsibilities of mobility managers is provided in a Kansas RTAP Newsletter article and can be found online. Collaboration between Kansas Mobility Managers and rural transportation providers can help to reduce rural transportation challenges. To contact Kansas Mobility Managers, visit the Kansas Rides website.

**4. Leverage Emerging Mobility Technology**

Emerging mobility refers to new ways of providing transportation by using technology to allow individuals to share rides and vehicles. It includes ride-hailing services such as Uber and Lyft that connect riders with drivers, and services that allow people to share bikes, cars and electric scooters, like Zipcar, Car2Go, and Lime. The systems that support sharing modes and rides are similar. They use a combination of sensors, automatic vehicle locators, and geographic information systems to track transportation suppliers (drivers, vehicles and bikes) to connect them with potential riders. Other technologies allow emerging mobility providers to track usage, allow passengers to pay fares and produce other accounting systems.

Developers are creating systems specifically designed to address the challenges faced by rural transit providers. Most research studies suggest that emerging mobility has potential to attract more riders to rural systems by:

- Sharing information about available services
- Providing new ways to connect riders with community transportation providers
- Making it easier and less expensive to schedule, pay, track and measure service, for both riders and providers

Some of the best practices using technology are flexible trip planners, and app-based trip scheduling and dispatch. These practices make it easier for providers to manage available services and schedule rides based on costs and needs. In addition, these new technologies and emerging mobility options can make a rural transit system easier to use, with more travel options.

**5. Examine Trends in Local Demographics**

Demographic trends should be used in developing public transportation options in any community. In most of the rural areas of Kansas, the overall population either is remaining stagnant or is declining, with the average age increasing. As people age, especially past 75 years, their ability to drive tends to decline, as shown in Figure 2 (6). Many older Americans, by choice or necessity, adjust their routines and take advance of alternative transportation options. Young people who do not drive or can't afford a car may not be able to access jobs and educational opportunities in rural areas due to the lack of transportation options.

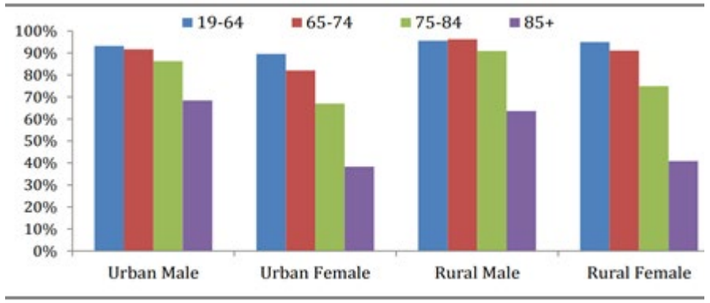


*Figure 2 - Driving Ability, by Age, Location and Gender (Mattson 2012)*

Public transit is especially important for people with disabilities and/or low incomes. In order to understand and serve different demographics in the small towns and rural areas, it is important for rural transit agencies to analyze and evaluate these trends every year.

Kansas RTAP uses Census data to estimate future demographics for all Kansas counties to help transit agencies understand the transit need and demand in their counties and cities. These demographics include total population and their age groups, population below poverty, with ambulatory difficulty, housing units, total households, and households with no vehicle and one vehicle availability. The data are revised and published on the RTAP website by August of every year.

**Conclusion**

Employing the strategies identified in this article will help to grow ridership for you transit agency. Five more strategies will be further discussed in the next edition of the Kansas RTAP Newsletter.

I would like to thank Kansas Mobility Managers Mike Wilson and Michelle Griffin for their time and valuable insights on this topic which contributed immensely to this article.

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## How the CARES Act is Helping Transit Providers Continued from page 1

**What is the CARES Act?**

In late March 2020, with the COVID-19 virus spreading rapidly across the country and many states issuing stay-at-home orders, the United States Congress passed the CARES Act. This legislation, which was quickly signed into law by President Trump, provided $25 billion to transit agencies across the country. KDOT received approximately $91 million with $38 million being allocated to rural providers. This additional funding covered 100 percent of the operating and capital expenses for Section 5311 providers in Kansas. The funding was well needed, with nearly 45 percent of all rural agencies having to either suspend or reduce service at some point in 2020 due to COVID-19.


**CARES Allowed Changes for Increased Safety and Sustained Staffing**

According to Barbara Lilyhorn, Director of Reno County Area Transportation, the CARES Act provided peace of mind to her and her employees while they navigated the stresses of operating service during a pandemic, including: increased cleaning, creating split shifts, reduced service, and the risk of contracting a deadly disease. One of the key reasons RCAT has been able to provide safe service during the pandemic is their strategic use of split shifts where half the drivers would be at home while the other half provided service. The CARES Act allowed RCAT drivers to continue to receive pay while "working from home." As employees that interact with the public "our [drivers'] job is to stay healthy," Lilyhorn said. This sentiment was echoed by Ottawa County Transportation Manager, Amanda Loughridge, who said that one of the main benefits of the CARES Act was that it "did allow us to cover administrative leave for our drivers while our ridership was still extremely low."

Another major benefit of the CARES Act was that it did not significantly change the reporting requirements for agencies. Transit agencies simply submit their reimbursement requests like normal. Although, they are encouraged to keep track of what purchases were specifically related to COVID-19. As transit agencies continue to navigate providing service in this pandemic, they can take some comfort in the fact that CARES Act funding is still available. According to Jon Moore, KDOT's Public Transit Manager, KDOT will continue to spend the CARES Act funds until they are fully depleted, perhaps even into fiscal year 2022.

Additionally, KDOT has been able to save an estimated $5 million in state transit funds due to the CARES Act that will provide an added cushion to the State's local match fund.

**Conclusion**

The federal government took swift action to provide much needed assistance to transit agencies through the CARES Act. The increase in funding gave transit agencies the flexibility to adjust their operations and protect their employees without additional budget concerns. As agencies continue to navigate this unprecedented crisis, they can take solace in the fact that CARES Act funds will be available for at least the remainder of fiscal year 2021. As always, Kansas RTAP is closely monitoring the transit landscape and will continue to provide updates through our newsletter and Resource Roundup.

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# Greetings from RTAP Director

By Lisa Koch

As I write this Director's Message, the temperature outside is 12 degrees. It's winter in Kansas and in addition to the challenges of COVID-19, your agencies are now dealing with extreme cold, ice and snow. There is never a dull day in the transit world and, as proven from the last year, challenging circumstances don't stop riders from needing services. You have all stepped up.

This year will bring new complications, from municipal budget constraints due to reduced sales tax revenues, to requests for vaccine transportation. Flexibility and innovation will be key to success.

How can we at Kansas RTAP help you? Are there specific topics in which we can research and provide webinars, training, or other technical support? Do you need additional connections with colleagues to discuss and brainstorm? Let me know at kolisach@ku.edu - we are here for you.

I hope you enjoy this newsletter and that you and your team stay safe this winter.

# Federal Mask Mandate to all Kansas Transit Providers

**E.O. effective from February 1, 2021**
**Promoting COVID-19 Safety in Domestic and International Travel**

'It is required to WEAR MASKS in airports, on commercial aircraft and in various modes of surface transportation. This order is applicable to all the owners/operators identified in 49 CFR 1582 (a) and owners/operators identified in 49 CFR 1584.1 that provides fixed-route services as defined in 49 CFR 1500.3'

Transit providers funded through the Kansas Department of Transportation programs were notified on February 2, 2021 that 'all 5311 and 5310 sub-recipients are subject to the federal mask mandate'. It is required by all the public transit providers to adhere with this federal mandate irrespective of their county requirements.

This mandate includes both transit operators and passengers, with exemptions for children under the age of 2 and those who cannot wear a mask because of disability. The mandate expires on May 11th, 2021. For any questions and/concerns, please feel free to contact KDOT Transit (KDOTtransit@ks.gov)

# The Kansas Transit Manager Handbook Has Been Updated

By Nikhila Gunda

The Kansas Transit Manager Handbook is a policy reference and management guide useful for all the experienced and new transit agency managers in Kansas. The first version was created and published in 2017 by Kansas RTAP. This article will help current and new transit managers in Kansas learn about the recent update of Kansas Transit Manager Handbook (2020).

**About the Handbook:**

The Kansas Transit Manager Handbook is designed to assist new Kansas public transportation managers in navigating and understanding the policies, procedures, and scope of managing a public or specialized transportation agency in the state of Kansas. This handbook is also a useful resource for more experienced managers and officials in clarifying state policies and grant requirements and identifying important contacts for federal, state and local transportation organizations, along with some helpful resources.

The handbook covers topics such as transit operations, service procedures and design, project administration, procurement, grant and financial management, personnel and staff training, and vehicle and facility maintenance. The information provided in each of the chapters of the handbook was contributed by the Kansas Department of Transportation (KDOT) along with several Kansas transportation agency managers.

Kansas RTAP will update this handbook periodically to remain consistent with KDOT policies. However, KDOT grant recipients are individually responsible for adhering to KDOT's current policies, regardless of the content of this handbook. The first edition of this handbook was created and published in 2017; the second update in 2020. Kansas RTAP plans to update this handbook once in every three years.

**Major Updates in 2020:**

In addition to the minor edits, the latest version of this handbook includes:

- Updated website links and references,
- New and updated contact information of various organizations and officials,
- Outdated links and content have been removed that are longer applicable as of 2020,
- Mention of a new BlackCat Reference guide, available upon request from KDOT,
- New training programs available from Kansas RTAP,
- Mention that the Kansas Roadeo is no longer available as an RTAP training event,
- Updated policy and statutes references that are consistent with KDOT as of 2020.

**Conclusion:**

The Kansas Transit Manager Handbook is a useful resource for new and experienced public transportation managers. The second edition is available online at the Kansas RTAP website and a hard copy is available upon request from Kansas RTAP.

**Acknowledgements:**

Special thanks to all the people who contributed to the 2020 Edition of this handbook:

- Diane Yunghans, Nemaha County
- Barbara Lilyhorn, RCAT
- Ann Lowder, Kansas RTAP
- Kandace Bonnesen, Sedgwick County
- Jon Moore, KDOT
- Lisa Koch, Kansas RTAP

"The Kansas Transit Manager Handbook is a vital resource for all our program participants, both for those who are experienced administrators and those new to rural transit management. The handbook's ongoing updates of our comprehensive policies and procedures help to maintain compliance with subrecipients and is a critial tool for new starts in KDOT's 5311/5310 grant programs." - Jon Moore, KDOT - Public Transportation Manager



# Rural Transit Funding for Elected Officials

By Connor Mountford

Elected officials bring diverse knowledge, skills, and abilities that shape their approach to governing. For example, a small business owner may take an interest in downtown redevelopment but lack experience in wastewater treatment. As public employees, it is essential to help fill in the reasonable gaps in knowledge elected officials may have about government operations. After all, in most cases, serving as a city or county commissioner is a part time job. This fact sheet is intended to provide transit professionals with a quick reference guide that they can use to help elected officials understand rural transit finance.

**Rural Transit Funding 101**

Transit agencies in the United States are funded through a combination of public subsidies, service agreements, and fare revenues. This funding is further classified by the size of the community (urban, rural, or tribal) and funding type (operating or capital). In Kansas, most transit agencies are part of either the Federal Transit Administration (FTA) Section 5310 or Section 5311 grant programs. These programs provide federal funding from the FTA to the Kansas Department of Transportation's (KDOT) Office of Public Transportation, which administers the program and disperses the funds to eligible agencies.

*5310 Program*

The Section 5310 program provides funding for non-profits and local governments to support the transportation needs of the elderly and people with disabilities. While 5310 program participants can offer service to all people within these groups, they typically serve a specific clientele. For example, a mental health or developmental services facility may offer transportation specifically to their clients under this program.

The FTA makes Section 5310 funds available for both capital and operating expenses through matching grants. These apportionments are made to the KDOT, which then distributes the funding among its sub-recipient agencies. The State covers 80 percent of the total cost for capital expenses, such as new vehicle purchases, and the sub-recipient is responsible for providing the remaining 20 percent.

Additionally, FTA allows its apportionment to be used to cover up to 50 percent of a sub-recipient agency's operating expenses, such as driver salaries. KDOT does not make its Section 5310 apportionment available for operating assistance. Instead, KDOT offers Section 5310 agencies operating assistance with State funds covering 70 percent of the agency's net operating costs. The sub-recipient agency is then responsible for the remaining 30 percent of their net operating costs. However, operating assistance funds are capped at $10,000 for agencies with fewer than 10 vehicles and $20,000 for agencies with 10 or more vehicles.

*5311 Program*

The Section 5311 program provides funding for local governments in rural areas and small communities – defined as any community with a population under 50,000 – to support general public transportation projects. Unlike Section 5310 providers, Section 5311 providers cannot limit their services to a single demographic group or clientele. However, they can limit service geographically. For example, an agency providing service within a county is required to serve all county residents but may choose not to make trips outside the county.

Section 5311 providers are also eligible to receive both capital and

*Continued on next page*

**Table 1. Section 5310 & 5311 Capital Expense Matching Requirements**

| | Program Purpose | Federal Portion | State Portion | Local Portion |
|---|---|---|---|---|
| Section 5310 | To fund the transportation services for the elderly and people with disabilities. | 80% | 0% | 20% |
| Section 5311 | To fund general public transportation projects in urbanized areas with populations below 50,000. | 80% | 0% | 20% |

**Table 2. Section 5310 & 5311 Operating Expense Matching Requirements**

| | Program Purpose | Federal Portion | State Portion | Local Portion |
|---|---|---|---|---|
| Section 5310 | To fund the transportation services for the elderly and people with disabilities. | 0% | 70% | 30% |
| Section 5311 | To fund general public transportation projects in urbanized areas with populations below 50,000. | 50% | 20% | 30% |

operating assistance provided to the KDOT from the FTA. The matching structure for the 5311 program is the same as the 5310 program. The State uses its FTA apportionment to cover 80 percent of capital project expenses and 50 percent of net operating expenses. Sub-recipient agencies are responsible for covering the remaining expenses. The main difference in the funding structure between the 5310 and 5311 programs is how operating expenses are treated. Unlike the 5310 program, KDOT allows its 5311 program apportionment to be used for operating assistance at the full 50 percent State share. Additionally, KDOT uses a State apportionment to cover an additional 20 percent of an agency's net operating expenses. Although, these funds are subject to availability. No cap is placed on the amount of operating assistance available to 5311 program agencies. Table 1 provides further details on each of these programs and their funding regulations.

**The Role of Fares**

Farebox revenue is collected directly from passengers and covers only a small portion of the total operating costs for an agency. Figure 1 shows that between 2007 and 2017, only 9 percent of operating revenue for "rural and reduced reporters" in Kansas (aka 5310 and 5311 agencies) was generated by fares. So, why not increase fares to cover the full cost of operating the service?

First, public transit users, especially in rural areas, tend to have low incomes, be elderly, or have a disability. Increasing fare rates could make the service cost-prohibitive for them, potentially backfiring by decreasing both ridership and fare revenue.

Additionally, farebox revenue does not count toward an agency's local match. Instead, farebox revenue is subtracted from the agency's operating expenses.1 The remaining balance – the net operating expenses – are then eligible for assistance. So, the more an agency recoups through fares, the less state and federal assistance that agency would be eligible to receive.

**Tip from a Transit Manager**

When asked about how she communicates the role of fares to elected officals Amanda Loughrudge, Ottawa County Transportation Manager said, it s important to "Beat them to the punch and provide information on the types of trips your agency provides and its clients.

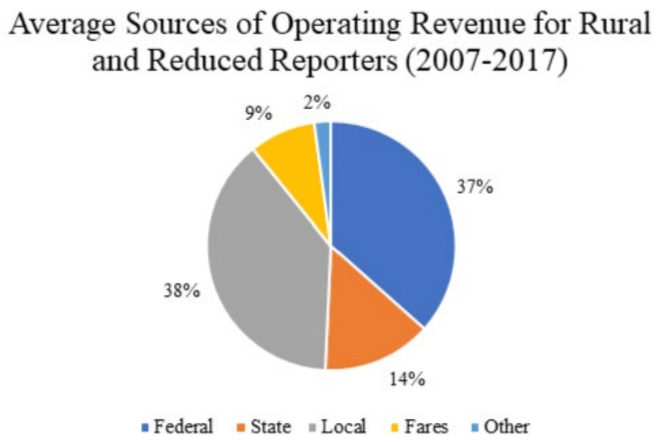


*Fig. 1 Data retrieved from the National Transit Data Base 2019 Time Series Data Tables.*

**Funding your Local Match**

All agencies are required to cover at least 30 percent of their net operating costs through a local match. As mentioned previously, KDOT funds up to 20 percent of the local match for Section 5311 providers and covers 70 percent of net operating costs for Section 5310 providers. So, both Section 5310 and Section 5311 providers are responsible for covering 30 percent of their net operating costs. These funds can come from state or local appropriations, a cash surplus, service agreements, non-DOT federal funds, private donations, or income generated from advertising.

Most agencies fulfill their local match requirements through appropriations from their local government and are required to participate in the annual budget process. However, the regulations on local match revenue allow some room for innovation. For example, agencies may also enter into service agreements with other organizations, such as colleges or businesses, to provide "free" rides. In this scenario, the organization would essentially pay a negotiated amount in lieu of fare revenue. Similarly, an agency can receive federal money from agencies other than the DOT. The most common way this revenue source is utilized is through non-emergency medical transportation – a Health and Human Services funded program that provides reimbursements to

**Conclusion**

Elected officials may not always be familiar with the details of how your agency is funded, which may lead to breakdowns in communication or understanding when it comes time to budget for your local match. This article provides you, the transit manager, with a fact sheet that you can hand directly to your elected official. The standalone version (without an introduction and conclusion) will be housed

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# The Importance of Securing Oxygen Tanks on Public Transportation Vehicles

By Anne Lowder & Kara Cox

At any given time, a transit vehicle could be forced to make a sudden stop and unsecured items can quickly become unwanted projectiles. Therefore, all necessary on-board items such as the blood borne pathogen kit, first aid kit, fire extinguisher and wheelchair retractor storage bags should be properly bolted to the wall to prevent becoming projectiles during transportation. These items can be secured on the bus ahead of accepting passengers, but what if a passenger boards your vehicle with an oxygen tank? What steps should your agency take to make sure the oxygen tank is secured during transportation? In this article we will look at the necessity of securing oxygen tanks, the proper practices in doing so, and a crash-tested device on the market for effective tank securement in transit vehicles.

**Why Securing Oxygen Tanks is Important**

Oxygen tanks come in many sizes, all of which require some sort of securement during transportation. From small tanks that can be carried in bags to tanks transported on a cart, oxygen tanks should be secured for several reasons. If an unsecured tank were to fall, it could break the valve, potentially resulting in a rapid release of gas, causing the tank to propel as a dangerous projectile. Without proper securement, tanks run a risk of causing injury to the driver, passengers, and in some cases even pedestrians outside of the vehicle. Along with becoming a projectile, oxygen tanks that fall can release explosive gas, which may cause a fire.

**Who is Responsible for the Proper Securement of Oxygen Tanks?**

Drivers are the front line for ensuring that every oxygen tank is secured properly each time a tank comes onto their vehicle. All drivers should be trained on tank inspection, handling, and securement procedures. In addition, drivers should have training in how to handle the tanks in cases of emergency. For drivers to be trained successfully to carry out proper procedures, transit managers and supervisors must also be trained in these areas. Managers and supervisors are responsible for making sure their drivers are appropriately trained and vehicles are properly equipped with the tools necessary for proper securement.

Some transit agencies would like to deny transporting oxygen tanks because of the dangers they pose inside the vehicle. However, the Americans with Disability Act (ADA) states that oxygen tanks must be transported with the person. That makes it important for the agency and its drivers to have a strong policy and the proper equipment for best practices in the securement of oxygen tanks. From the ADA:

"The entity shall not prohibit an individual with a disability from traveling with a respirator or portable oxygen supply, consistent with applicable Department of Transportation rules on the transportation of hazardous materials" (49 CFR subtitle B, chapter 1, subchapter C).

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**Improper Oxygen Securement Practices**

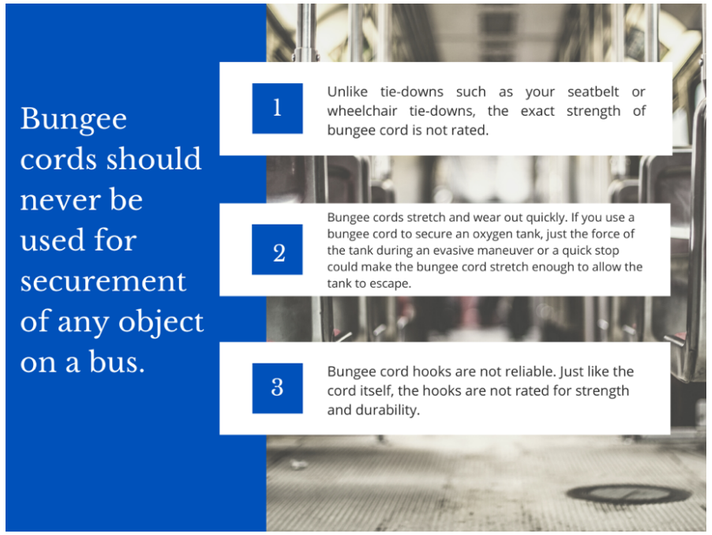
Bungee cords are often considered the "go to" for securing objects on a bus. However, bungee cords should never be used for securement of any object on a bus. Here are the top three reasons bungee cords are inappropriate securements:

1. Unlike tie-downs such as your seatbelt or the wheelchair tie-downs, the exact strength of a bungee cord is not rated.
2. Bungee cords stretch and wear out quickly. If you use a bungee cord to secure an oxygen tank, just the force of the tank during an evasive maneuver or a quick stop could make the bungee cord stretch enough to allow the tank to escape.
3. Hooks on bungee cords are not reliable. Just like the cord itself, the hooks are not rated for strength and durability.

**Best Practice for Securement of Oxygen Tanks**

What is the proper way to secure oxygen tanks? It depends on the size of the tank. In most cases, your passengers with small oxygen cylinders can secure them sufficiently by placing them in their purses or backpacks. There are also devices that secure the tank to a wheelchair. Larger oxygen cylinders, though, need to be secured by the transit driver.

In 2006, the United States Department of Transportation (DOT) established a set of guidelines for transporting medical oxygen. DOT guidelines include inspecting the cylinder for damage and never lifting, dragging, or handling the cylinder by the valve or regulator. DOT guidance states that oxygen tanks should be stored in an upright position, away from any heat source, and safely secured to not become a projectile in the bus. DOT guidance does not




specify how to secure the cylinders.

The State of Maryland (June 2002) and the Illinois Rural Transit Assistance Center (January 2010) developed guidelines to mount oxygen tanks to a bus seat, bus floor or to a wheelchair utilizing seat belts, bungee straps, or a mounted bracket. Securing oxygen tanks using these methods is not best practices and could result in the oxygen tank becoming a projectile.

**Reasons that Wall Mounts and Floor Mounts Would Not Be Recommended**

1. There is no place to bolt the product to the side or floor of the minivan. Oxygen tanks must be upright. The only location to bolt to in a minivan is the floor. Permanently bolting the device to the floor would cause a tripping hazard due to the configuration of the seating in the vehicle.
2. The only location to bolt the product in the paratransit vehicle is in the rear of the bus. Currently, the Q'Straint bags that holds the retractors is bolted on that available wall. So, the oxygen tank product bolted in that location would be under the waist high Q'Straint bags. The floor mounted device would be underneath the retractor storage. Both wall and floor mount devices create problems because they are in the wheelchair securement area. This area is already tight. This product would stick out and create problems for the driver when doing securement. The driver may injure themselves if this product was bolted in this area. Another concern is if two wheelchairs are secured and then a third person needed oxygen secured. The oxygen line would be running across the occupant of the wheelchair.
3. In the Ford transit vehicle, it would limit the ability to freely move around the seats and again might create a problem where the oxygen line runs across another rider.
4. Neither the wall nor floor mount devices are crashed tested. They also do not have the flexibility of being able to accommodate a variety of oxygen tank sizes.

**A Movable, yet Stable, Oxygen Holder is Recommended for Transit Use**



The challenges of the mounted holders are resolved by procuring a unit that is freestanding. When looking for a freestanding unit, find one that is compact yet crashworthy. One option is the Q'Straint "GO2" (pronounced 'GO-TO'). Drivers of transit, paratransit, and other vehicles that have L-tracks or pockets, can seat passengers anywhere inside their vehicle and safely secure their oxygen tank using the GO2 device.

*Figure 1: Global Wall Mount and USA Safety Floor Mount*

**GO2 key features**

GO2 prevents oxygen cylinders from tipping, falling, or becoming a projectile during a sudden stop or maneuver. The GO2 has a tightening and release knob, a visual lock indicator to ensure that the cylinder is secured, and two anti-slip straps that adjust to accommodate oxygen cylinders from sizes M2 to E (Americas) as well as AZ to RD (Europe).

*Figure 2: Q'Straint's "GO2" portable oxygen securement device. qstraint.com*

The GO2 is compact in size, lightweight (less than 6 lbs.) and is made of high-grade anodized aluminum for durability and resistance to corrosion. The transit driver can easily secure the GO2 in Series L Tracks on the vehicle floor and can move the GO2 from one vehicle to another without the use of tools.

**GO2 Testing specs**

The GO2 is the only oxygen tank securement device we are aware of that has been crashed tested in a transit vehicle. The GO2 has passed a dynamic crash test at 30mph/20g and meets applicable standards and regulations for securement of the cylinder that include

- The National School Transportation Specifications and Procedures
- Support Equipment and Accessories B.3 and IEP–IFSP Process, Guidelines, E.11
- Ambulance Manufacturer's Division AMD Standard 003 and Oxygen Tank Retention System.

*Figure 3: Example of Q'Straint's "GO2" oxygen securement device in use. qstraint.com*

**Advice for your Transit Agency**

If your agency transports larger medical oxygen cylinders on a regular basis, you might find it advantageous to purchase the GO2 at a cost of around $295.00, versus using unproven securement devices such as wall and floor mounted brackets, bungee cords and wrapping the lap- and seatbelts around the cylinders. However, if your customers only have small oxygen cylinders, they will have the cylinders secured in portable oxygen backpacks, a device like the GO2 is not necessary.

**Comparison of GO2, Wall mount and Floor Mount Cylinder Devices to Secure Oxygen Tanks**

| Construction, Securement Features and Compliance of Cylinder holders | Q'Straint GO2 cylinder holder | Global Wall Mount cylinder bracket | USA Safety Floor Mount |
|---|---|---|---|
| Construction | Anodized Aluminum | Steel | Steel |
| Style | Movable | Stationary | Stationary |
| Type | Series L Track or Pockets | Wall Mount | Floor Mount |
| Weight lbs. | 6 | 2.7 | 20 |
| Tightening Knob | Yes | No | No |
| Anti-Slip Straps | Yes | Not tested | Not tested |
| Quick Release Lever | Yes | Buckle | Not tested |
| Visual Locking Indicator | Yes | No | No |
| Size of Containers that can hold | M2 to E | | 4" to 10" |
| **Standards and Compliance:** | | | |
| NFPA | No | Yes | Yes |
| OSHA | No | Yes | Yes |
| National School Transportation Specifications & Procedures | Yes | No | No |
| The European Committee for Standardization (CEN) | Yes | No | No |
| Ambulance Manufacturer's Division | Yes | No | No |
| Dynamic crash test at 30mph/20g | Yes | No | No |

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**Sources**
1. Federal Transit Administration regulations and guidance for civil rights ADA. https://www.transit.dot.gov/regulations-and-guidance/civil-rights-ada/part-37-transportation-services-individuals-disabilities#subpartH
2. Five reasons you shouldn t use bungees instead of tie  down straps. https://www.discountramps.com/tiedowns-vs-bungees/a/B33/
3. Joint Commission article for storage of freestanding medical gas cylinders: compliance and safety @lis tips.2012_jconline_articles_mp_blogpdf.pdf (jointcommission.org)

# Technical Resources From Kansas RTAP, at Your Fingertips

By Lisa Harris-Frydman

Do you need an RTAP fact sheet from a few years ago and can't remember where it is? Are you looking for resources on maintenance and don't know where to start? Do want to see some sample policies from other transit agencies?  We can help with these…. and a lot more!

Kansas RTAP has a new searchable Resources feature at its website. We have over 250 resources, each available through a link. Resources include videos, publications, webinars, factsheets, websites and more.

There are 16 topics under which to search, and there is also a "Quick Search" feature where you can type in a word or phrase to find a resource. The feature searches descriptions as well as titles, so you don't need to know the exact title of a resource to find it.

Each resource is available by clicking a link. We do not have hard copies, with the exception of the Kansas Dispatcher Manual. The dispatcher manual can be ordered in hard copy after registering and/or logging in at the Resources opening page. You will see a cart icon next to the name of that publication if there are any copies still available.)

Registration is not necessary for browsing and accessing links. Just go to www.ksrtap.org, click on "Resources" in the left column, and then click on RTAP to start browsing the collection.

I hope you will take a few moments to browse around the different topics and what we have to offer. If you know of resources that would be good to share with other transit agencies, please let me know. It's easy for us to add new resources, and we want this service to be as useful as possible to those who provide public transportation and accessible transit in Kansas.

Questions? Comments? We'd love to hear from you! Contact Lisa Harris-Frydman at lharris@ku.edu

# An Update of RTAP Training and Programs

By Anne Lowder

COVID-19 continues to change the way we provide driver's training. Kansas RTAP is dedicated to providing support, high quality training, and technical assistance to transit agencies as they adjust to new limitations and challenges in their work. We will continue to adapt our services to best meet your needs as guidelines surrounding COVID-19 are updated. Below are current opportunities for online training. If we can be of assistance in any way, please contact kutc_training@ku.edu.

**KS RTAP driver's training in-person**

In-person training can be requested by any agency for driver training. Contact Anne Lowder alowder@ku.edu to request this training. Anne is available to conduct trainings on Wednesday and Thursdays of most weeks.

**Online training resources**

In response to travel and training restrictions due to COVID-19, Kansas RTAP is providing e-learning to temporarily meet KDOT guidelines for operator training.  Kansas RTAP will send information to agencies about the closing date for this option; for now it will be through May 2021. The program is outlined at https://kutc.ku.edu/online-training.

To receive a Kansas RTAP Certificate, the driver must complete the trainings listed in one of the three modules and then email the certificates to alowder@ku.edu.

Q'Straint is offering virtual classes. The cost for the Q'Straint Basic Securement 101 is now $49.99 with a bulk discount available.

**Resources for live and archived webinars and downloads**

There are many free or low-cost webinars and downloads hosted by other transportation centers, The National Transit Institute, and the Federal Transit Administration. KS RTAP has done the searching for you!

**National Transit Institute**

NTI's collaborative online learning events are free and are offered throughout the year on a variety of topics. Participants log into the webinar to access the visual content and either dial into a teleconference or use their computer speakers for the audio portion. Each webinar lasts approximately 90 minutes and includes a question and answer session.  https://www.ntionline.com/webinars/.

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Kansas
Transit *Reporter*

The Kansas Transit Reporter is an educational and technology transfer newsletter published quarterly by the University of Kansas Transportation Center (KUTC). The newsletter is free to rural and specialized transit providers and others with an interest in rural and specialized service.

The Kansas Transit Reporter is co-sponsored by the Federal Transit Administration under its Rural Transportation Assistance Program (RTAP) and the Kansas Department of Transportation. The purposes of the RTAP program are to: 1) educate transit operators about the latest technologies in rural and specialized transit; 2) encourage their translation into practical application; and 3) to share information among operators.