

SDDOT Transit Asset Management (TAM) Plan



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Introduction

This plan is a result of the Moving Ahead for Progress in the 21st Century Act (MAP-21) that required a system to monitor and manage public transportation assets to improve safety and increase reliability and performance and to establish performance measures. On July 26, 2016, FTA published the Transit Asset Management (TAM) Final Rule. The final rule groups providers into two categories: Tier I and Tier II. South Dakota and all of their rural public transit providers and one small urban public transit provider are part of this Tier II plan which includes four TAM Plan Elements.

1. Inventory of Capital Assets

The SDDOT has a software solution in place to help keep track of all of the capital assets of each public transit provider. Capital assets include vehicles, equipment (including all service vehicles and equipment assets over \$50,000) and facilities.

2. Condition Assessment

A condition assessment is a rating of the condition of assets in the inventory which is completed by the agency and the SDDOT at different times. Each agency that is part of the TAM Plan will update their condition assessments of their assets on an annual basis. The SDDOT will do their own inspections and assessments on a biennial basis.

3. Decision Support Tools

A decision support tool is methodology to help transit providers make decisions such as prioritizing projects based on condition data and objective criteria. A decision support tool can be software or a process.

4. Investment Prioritization

The Investment Prioritization is a list of the proposed projects and programs that a transit provider estimates would achieve its State of Good Repair goals and a ranking of the projects and programs based on priority.

On an annual basis or more frequently, this plan will be reviewed and updates may be made.

Goals

Each year the SDDOT will re-evaluate their goals and decide where adjustments need to be made.

The TAM goal for revenue vehicles is to have 72% or more meet or exceed the State of Good Repair (SOGR) in FY2020 and increase it until we are able to reach 80% or more.

The TAM goal for facilities is to have 95% or more above a 3.0 rating using the median rating. If the total rating is below 3.0, an evaluation must be completed (and submitted with your evaluation) to determine if the unacceptable rating is due to defective subcomponents, which need to be repaired or replaced or if the unacceptable rating is because of major structural issues.

The TAM goal for equipment is 60% or more meet or exceed the SOGR.

Metropolitan Planning Organizations (MPO's)

SDDOT has agreement's in place with the local MPO's that they will support the State targets, develop MPO targets, report data and notify the SDDOT of the option they have selected on an annual basis.

Scorecards

These scorecards are to be used to determine the condition rating for all reportable assets. That data is to be entered into the ThingTech database by December 1st each year.

Revenue Vehicles:

South Dakota TAM Scorecard Revenue Vehicles

State of Good Repair Formula

Useful Life - Age	Deduct one (1) point for each 20% of expected Class Service Life based on in-service date. This score starts with five (5) points but cannot be less than one (1). This is auto-calculated in ThingTech.
Life Miles or Hours	Deduct one (1) point for each 20% of expected Asset Class Life miles or hours. This score starts with five (5) points but cannot be less than one(1). This is auto-calculated in ThingTech.
Reliability	Points are assigned as 1, 3, or 5 depending on comparison to average Maintenance Cost Per Mile (MCPM) of class. Five (5) points are assigned if MCPM is less than 75% of average MCPM for the class, 3 points if >75% but < 120% average MCPM for the class, and 1 point if > 120% of average MCPM for the class. This is auto-calculated in ThingTech.
Preventive Maintenance & Repair Costs	Five (5) points are assigned when maintenance & repair costs are < 21% of original purchase cost 4 points when 21% - 40%, 3 points when 41% - 60%, 2 points when 61% - 80% and 1 point when > 80%. This is auto-calculated in ThingTech.
Condition of Vehicle	This factor takes into consideration body condition, rust, interior & exterior condition, accident history, frequency of out of service time, etc. A scale of 1 to 5 is used with 1 being poor. This is manually done by each transit provider with guidance from the Condition of Vehicle Reference on page 4 and 5 below. Due annually by December 1 st .

Vehicle Class Bus

Large, heavy-duty

Transit buses including over-the-road buses (approximately 35' – 40' or larger including articulated buses, >30 passenger)

Asset Class

- Bus

Small size, heavy-duty

Transit buses (>18 passenger)

Asset Class

- Mini Bus

Medium-size, medium-duty

Transit buses (>10 passenger)

Asset Class

- Cutaway Bus

Medium-size, light-duty

Transit buses (<8 passenger)

Asset Class

- Van

Vehicle Class Light Duty Vehicles

Other light-duty vehicles

Vehicles used as equipment and to transport passengers (revenue service), such as regular and specialized vans, automobiles, sedans, sport utility, and light-duty buses including all bus models exempt from testing in the current 49 CFR part 665:

Asset Class

- Automobile
- Minivan
- Sport Utility

Vehicle Class Trolleys

The term “trolley” is often applied to a wide variety of vehicles. Thus, the useful life depends on the type of trolley.

Asset Class

- Trolley Bus
- Vintage Trolley/Street Car

Useful Life Years

Large Heavy-Duty Buses	12 Years
Small Heavy-Duty Buses	10 Years
Medium Size Medium-Duty Buses	7 Years
Medium Size Light-Duty - Van	5 Years
Other Light Duty Vehicles	4 Years
Trolleys – Steeled Wheeled	25 Years
Trolleys – Rubber tires	15 Years

Life Miles or Hours

Large Heavy-Duty Buses	500,000 Miles or 16,667 Hours
Small Heavy-Duty Buses	350,000 Miles or 11,667 Hours
Medium Size Medium-Duty Buses	200,000 Miles or 6,667 Hours
Medium Size Light-Duty	150,000 Miles or 5,000 Hours
Other Light Duty Vehicles	100,000 Miles or 3,333 Hours
Trolleys – Steeled Wheeled	350,000 Miles or 25,000 Hours
Trolleys – Rubber tires	350,000 Miles or 11,667 Hours

Condition of Vehicle Reference

Rating of 5

- New condition or vehicle has only received Manufacturer’s Recommended Preventive Maintenance (MRPM) service during the current federal fiscal year and is in very good physical and mechanical condition.

Rating of 4

- (a) Vehicle repairs (not including MRPM service) have not exceeded \$1,500.00 for the current federal fiscal year.
- (b) Exterior: No dents, rust or paint failures.
- (c) Interior: No broken or cracked dash or interior panels, door or window parts. No stains, tears or wear spots in upholstery.

Rating of 3

- (a) Vehicle repairs (not including MRPM service) exceed \$1,500.00 for the current federal fiscal year.
- (b) Exterior: No rust or paint failures. No dents larger than 25 square inches.
- (c) Interior: Has cracked dash or interior panels, damaged door or window parts. Upholstery developing small stains and/or tears or wear spots.

Rating of 2

- (a) Vehicle has a major repair exceeding \$2,000.00 on the engine, transmission, drive train, rear end assembly, or wheelchair lift, and has been removed from revenue service for 6 or more days (excluded MRPM service days) during the current federal fiscal year.
- (b) Exterior: Surface rust and/or paint failures are developing. Body has several areas of damage.
- (c) Interior: Has developed cracked dash or interior panels, damaged door or window parts. Upholstery has stains, several wear spots, and/or tears.
- (d) Vehicle exceeds one of the two established useful life standards (mileage/hours or years of service).

Rating of 1

- (a) Vehicle has a major repair exceeding \$2,000.00 on the engine, transmission, drive train, rear end assembly, or wheelchair lift, and has been removed from revenue service for 10 or more days (excluded MRPM service days) during the current federal fiscal year.
- (b) Exterior: Major rust and/or large paint failures have developed. Body has several areas of damage.
- (c) Interior: Has developed a cracked dash, broken interior panels, damaged door or window parts. Upholstery has stains, sever wear spots, and/or tears.
- (d) Vehicle exceeds both of the applicable useful life standards.

Non-Revenue Vehicles:

South Dakota TAM Scorecard Non-Revenue Vehicles (Equipment)

State of Good Repair Formula

Useful Life - Age	Starting at five (5), deduct one (1) point for each 20% of expected Class Service Life based on in-service date. This is auto-calculated in ThingTech.
Life Miles or Hours	Starting at five (5) deduct one (1) point for each 20% of expected Asset Class Life miles or hours. This is auto-calculated in ThingTech.
Reliability	Points are assigned as 5 points if MCPM is less than 75% of average MCPM for the class, 3 points if >75% but < 120% average MCPM for the class, and 1 point if > 120% of average MCPM for the class. This is auto-calculated in ThingTech.
Preventive Maintenance & Repair Costs	Five (5) points are assigned when maintenance & repair costs are < 21% of original purchase cost 4

	points when 21% - 40%, 3 points when 41% - 60%, 2 points when 61% - 80% and 1 point when > 80%. This is auto-calculated in ThingTech.
Condition of Vehicle	This factor takes into consideration body condition, rust, interior & exterior condition, accident history, etc. A scale of 1 to 5 is used with 1 being poor. This is manually done by each transit provider with guidance from the Condition of Vehicle Reference below. Due annually by December 1 st .

Vehicle Class

Tow Truck

Heavy Duty Service Truck

Pickup Trucks

Staff Vehicles

Useful Life Years

Tow Truck	20 Years
Heavy-Duty Service Truck	18 Years
Pickup Trucks	12 Years
Medium Size Light-Duty - Van	5 Years
Staff Vehicles	6 Years

Life Miles or Hours

Tow Truck	180,000 Miles or 6,000 Hours
Heavy-Duty Service Truck	150,000 Miles or 5,000 Hours
Pickup Trucks	150,000 Miles or 5,000 Hours
Staff Vehicles	150,000 Miles or 5,000 Hours

Condition of Vehicle Reference

Rating of 5

- (a) New condition or vehicle has only received Manufacturer’s Recommended Preventive Maintenance (MRPM) service during the current federal fiscal year and is in very good physical and mechanical condition.

Rating of 4

- (a) Vehicle repairs (not including MRPM service) have not exceeded \$1,500.00 for the current federal fiscal year.
- (b) Exterior: No dents, rust or paint failures.
- (c) Interior: No broken or cracked dash or interior panels, door or window parts. No stains, tears or wear spots in upholstery.

Rating of 3

- (a) Vehicle repairs (not including MRPM service) exceed \$1,500.00 for the current federal fiscal year.
- (b) Exterior: No rust or paint failures. No dents larger than 25 square inches.
- (c) Interior: Has cracked dash or interior panels, damaged door or window parts. Upholstery developing small stains and/or tears or wear spots.

Rating of 2

- (a) Vehicle has a major repair exceeding \$2,000.00 on the engine, transmission, drive train, rear end assembly, or wheelchair lift, and has been removed from revenue service for 6 or more days (excluded MRPM service days) during the current federal fiscal year.
- (b) Exterior: Surface rust and/or paint failures are developing. Body has several areas of damage.
- (c) Interior: Has developed cracked dash or interior panels, damaged door or window parts. Upholstery has stains, several wear spots, and/or tears.
- (d) Vehicle exceeds one of the two established useful life standards (mileage/hours or years of service).

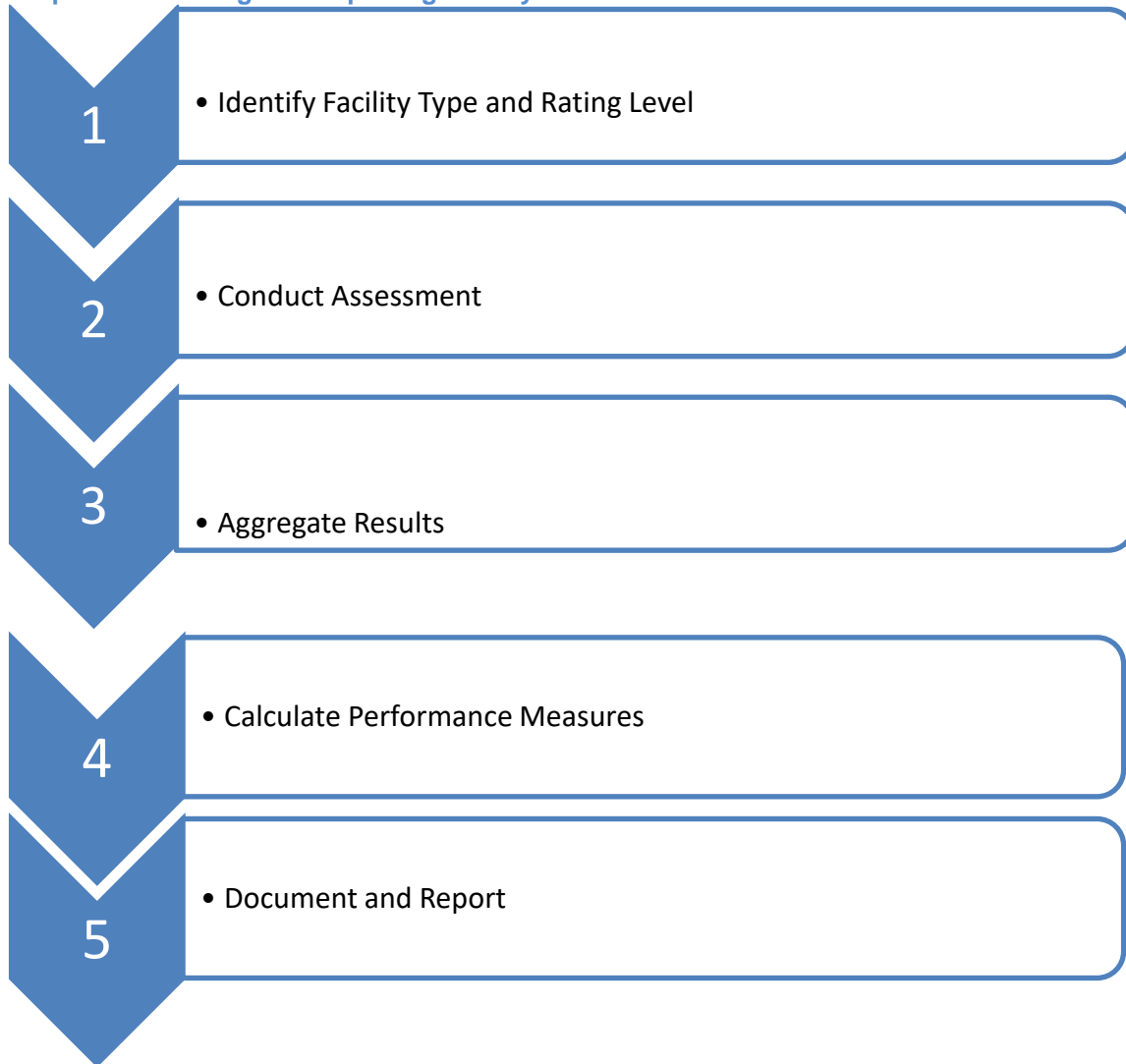
Rating of 1

- (a) Vehicle has a major repair exceeding \$2,000.00 on the engine, transmission, drive train, rear end assembly, or wheelchair lift, and has been removed from revenue service for 10 or more days (excluded MRPM service days) during the current federal fiscal year.
- (b) Exterior: Major rust and/or large paint failures have developed. Body has several areas of damage.
- (c) Interior: Has developed a cracked dash, broken interior panels, damaged door or window parts. Upholstery has stains, sever wear spots, and/or tears.
- (d) Vehicle exceeds both of the applicable useful life standards.

Facilities:

South Dakota TAM Scorecard Facilities

Steps to Accessing and Reporting Facility Conditions and Performance Measures



1. Identify Facility Type and Rating Level

Facility Types Rating Levels

Administrative and Maintenance

Administrative Facilities

Maintenance Facilities

Passenger and Parking

Passenger Facilities

Parking Facilities

Facility Assessment Rating Levels

ID#	Components	Sub-components
A	Substructure	<ul style="list-style-type: none"> • Foundations: Walls, columns, pilings other structural components • Basement: Materials, insulation, slab, floor underpinning
B	Shell	<ul style="list-style-type: none"> • Superstructure/structural frame: columns, pillars, walls • Roof: Roof surface, gutters, eaves, skylights, chimney surrounds • Exterior: Windows, doors, and all finishes (paint, masonry) • Shell appurtenances: Balconies, fire escapes, gutter downspouts
C	Interiors	<ul style="list-style-type: none"> • Partitions: walls, interior doors, fittings such as signage • Stairs: Interior stairs and landings • Finishes: Materials used on walls, floors, and ceilings <p>This component covers all interior spaces, regardless of use</p>
D	Conveyance	<ul style="list-style-type: none"> • Elevators • Escalators • Lifts: any other such fixed apparatuses for the movement of goods or people
E	Plumbing	<ul style="list-style-type: none"> • Fixtures • Water distribution • Sanitary waste • Rain water drainage
F	HVAC (Heating, Ventilation, & Air Conditioning)	<ul style="list-style-type: none"> • Energy Supply • Heat generation & distribution systems • Cooling generation & distribution system • Testing, balancing, controls & instrumentation • Chimneys and vents
G	Fire Protection	<ul style="list-style-type: none"> • Sprinklers • Standpipes • Hydrants and other fire protection specialties
H	Electrical	<ul style="list-style-type: none"> • Electrical service & distribution • Lighting & branch wiring (interior & exterior) • Communications & security • Other electrical system-related pieces such as lightning protection, generators, & emergency lighting
I	Site	<ul style="list-style-type: none"> • Roadways/driveways and associated signage, markings, & equipment • Parking lots and associated signage, markings & equipment • Pedestrian areas & associated signage, markings, & equipment • Site development such as fences, walls, and miscellaneous structures • Landscaping and irrigation • Site Utilities
J	Equipment	<ul style="list-style-type: none"> • Equipment related to the function of the facility, including maintenance or vehicle service equipment
K	Fare Collection	<ul style="list-style-type: none"> • For Passenger and Parking Facilities

2. Condition Assessment

Rating	Condition	Description
5	Excellent	No visible defects, new or near new condition, may still be under warranty if applicable
4	Good	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective; but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

3. Aggregate Results

Use the below table to tabulate the ratings for primary and secondary facilities.

ID	Component	5 Excellent	4 Good	3 Adequate	2 Marginal	1 Poor
A.	Structure					
B.	Shell					
C.	Interior					
D.	Conveyance					
E.	Plumbing					
F.	HVAC					
G.	Fire Protection					
H.	Electrical					
I.	Site					
J.	Equipment					
K.	Fare Collection					

SDDOT will use the Median Value formula to calculate the aggregate rating.

Determine the condition rating of each component. Sort in ascending order. The median is the value that falls in the middle of the list. When there is an even number of values, choose the lower of the two middle values.

Median Value:

4. Calculate Performance Measures

After determining the overall facility ratings for each of the facility types, calculate the performance measure for each of the overarching facility groups:

1. Administration and maintenance facilities
2. Passenger and parking facilities

Steps:

1. Count the number of facilities in each category with a rating below 3
2. Divide the value by the total number of facilities in the category
3. The value calculated above is the performance measure percentage.

Performance measure percentage:

5.. Document and Report

Agencies must submit overall facility condition rating for each facility in ThingTech for which it has direct capital responsibility.

Vehicles SOGR by Condition Rating 9/28/18

- Total Records 509
- Average Age 7.42
- Average Maintenance Costs \$13,756.79
- Average Odometer 93,374.32
- Average MCPM 0.12

Facilities SOGR by Condition Rating 9/28/18

- Total Records 36
- 12 Facilities with Rating of 5
- 22 Facilities with Rating of 4
- 2 Facilities with Rating of 3
- Average Facility Rating of 4.06

Revenue Vehicle Performance Report

ASSET CATEGORY	ASSET CLASS: ASSET CLASS NAME	# OF ASSETS	AVG. ODOMETER Sum	AVG. RATING Sum	AVG. AGE Sum	% PAST ULB	% BELOW 3.0
Revenue Vehicle / Rolling Stock (9 records)	Van	59	136,475.24	2.85	7.37	49.15%	49.15%
	Automobile	5	80,147.60	3.80	6.38	20.00%	0.00%
	Minivan	79	91,861.06	3.23	6.62	37.97%	32.91%
	Bus	14	71,297.43	3.29	10.28	28.57%	21.43%
	Cutaway Bus	303	83,204.32	3.20	7.75	34.65%	33.00%
	School Bus	9	141,630.33	1.89	3.54	0.00%	88.89%
	Minibus	14	16,659.79	3.29	7.73	35.71%	28.57%
	Vintage Trolley / Streetcar	5	4,262.40	3.60	9.53	0.00%	20.00%
	Sport Utility	11	29,367.45	3.45	3.01	9.09%	18.18%

Equipment Performance Report

Asset Category ↑	Asset Class: Asset Class Name	# of Assets	Avg. Odometer	Avg. Rating	Avg. Age	% Past ULB	% Below 3.0
Service Vehicle / Equipment	Automobile (Equipment)	9	26552.44	3	4.39	11.11%	55.56%

Facility Performance Report

Asset Category ↑	Asset Class: Asset Class Name	# of Assets	Avg. Odometer	Avg. Rating	Avg. Age	% Past ULB	% Below 3.0
Facilities	General Purpose Maintenance Facility/Depot	24		4.25		0.00%	0.00%
	Administrative Office/Sales Office	6		4.17		0.00%	0.00%
	Combined Administrative and Maintenance Facility	6		3.83		0.00%	0.00%

Maintaining Assets

All assets, whether rolling stock, equipment or a facility, will be maintained per manufacturer's recommendation when applicable. Each agency must develop a schedule and maintain accurate and detailed records documenting the maintenance and repairs of each asset. This data is required to be kept up to date by each stakeholder listed in this plan in the ThingTech database.

Vehicles

All FTA funded vehicles are to be maintained per the schedules printed in the owner's manual which accompanies each new vehicle. This requirement is the sole responsibility of the Transit agency per FTA regulations and the SDDOT funding agreement signed by the Transit agency. Despite the vehicles coming from the same manufacturer the maintenance requirements can vary greatly from year to year and will require different maintenance schedules. It is the sole responsibility of each transit agency to establish an efficient system and maintain records for all preventive and repair work performed on each vehicle. SDDOT staff will review at random the maintenance records of vehicles during Vehicle/Facility reviews. In addition, with the new Transit Asset Management program as required by FTA under the MAP and FAST Acts preventive maintenance and repair records will be a necessity and the TAM software will be using preventive maintenance and repair cost as part of the prioritization calculation.

Equipment

All FTA funded equipment whether it is part of the facility, shop equipment or free standing equipment it is to be maintained per the maintenance schedule which accompanies the equipment at time of purchase. This requirement is the sole responsibility of the Transit agency per FTA regulations and the SDDOT funding agreement signed by the Transit agency. Like vehicles each agency is required to establish an efficient system and maintain detailed records for all preventive and repair work performed on each piece of equipment. The maintenance schedule varies and maybe daily, weekly monthly, quarterly or annually.

Facilities

All FTA funded facilities are to be maintained to prolong the useful life of the building. The average useful life of our facilities is between 40 and 50 years, depending on type of structure and materials. This requirement is the sole responsibility of the Transit agency per FTA regulations and the SDDOT funding agreement signed by the Transit agency. Each transit agency is to establish an efficient system and maintain detailed records for all preventive and repair work performed on the facility. A modified version of the vehicle maintenance log is recommended for logging facility preventive maintenance and repair work performed. SDDOT staff will review at random the maintenance records of the facility during both the Program reviews and the Vehicle/Facility reviews. In addition, with the new Transit Asset Management program as required by FTA under the MAP and FAST Acts preventive maintenance records will be a necessity and the TAM software will be using preventive maintenance and repair cost as part of the prioritization calculation.

Reporting to NTD

Every year the SDDOT is to report all of its financial and statistical data to the National Transit Database (NTD) by January 31st. SDDOT will also report its

- Projected targets for the next fiscal year
- Condition assessments and performance results
- A narrative

Rehabilitation/Overhaul

The strategy of the SDDOT is to not have to rehabilitate or overhaul vehicle assets prior to the vehicle meeting its expected lifecycle. In some cases an engine or a transmission will have to be overhauled prior to the vehicle meeting its expected lifecycle, but those are handled on a case by case basis.

Disposal

Once a vehicle or piece of equipment has met its useful life and the transit agency wishes to dispose of it, the SDDOT will release the federal interest and provide a letter to the agency instructing them to dispose of the asset. This may include hauling a vehicle to the scrapyard, selling it through an online auction or live auction, advertising it, recycling it or using it for parts.

Stakeholders

Rural Public Transit Providers:

Aberdeen Ride Line, Rich Krokell, Accountable Executive
Brandon City Transit, Peter Smith, Accountable Executive
Brookings Area Transit Authority, Brenda Schweitzer, Accountable Executive
Community Transit of Watertown/Sisseton Inc., Terry Hoffman, Accountable Executive
East Dakota Transit, Peter Smith, Accountable Executive
Palace Transit, Jessica Pickett, Accountable Executive
People's Transit, Gayle Kludt, Accountable Executive
Prairie Hills Transit, Barb Cline, Accountable Executive
River Cities Public Transit, Ron Baumgart, Accountable Executive
Rural Office of Community Services, Peter Smith, Accountable Executive
Standing Rock Public Transit, Pamela Termes, Accountable Executive
Vermillion Public Transit, Barb Ballensky, Accountable Executive
Yankton Transit, Ron Baumgart, Accountable Executive

Small Urban Public Transit Provider:

Rapid Transit System, Megan Gould, Accountable Executive

MPO's:

Rapid City MPO
Sioux Falls MPO