

WATERTOWN AREA TRANSPORTATION PLAN

EXECUTIVE SUMMARY

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Prepared for:



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INTRODUCTION

The Watertown Area Transportation Plan was a collaborative effort between the City of Watertown and the South Dakota Department of Transportation (SDDOT). In the plan, the existing and future demands on the transportation system were evaluated and recommendations were made that reflect locally identified issues, goals, objectives and benchmarks. The transportation plan's study area included all of the City of Watertown and some of unincorporated Codington County, with a boundary that typically lies approximately 2 to 3 miles beyond the city limits.

PLAN DEVELOPMENT PROCESS

A brief summary of the steps involved in developing the Watertown Area Transportation Plan is offered in the following bullets.

- **Identification of Local Issues:** The initial stages of the plan included working with the general community, the Steering Committee and Stakeholders Committee to document current or emerging transportation system issue. This step was a part of the larger public involvement process, described later on page 5. In all three settings, the issues identified by each group were relatively consistent. The public meeting issues are shown in Figure ES-1.
- **Develop Plan Goals and Objectives:** Plan Goals and Objectives were developed with input from the study Steering Committee and were developed to represent the values of the community. The development of the study goals and objectives was a critical early step in the planning process, because to a large extent they defined the general course of the study in two ways:
 - Aided in prioritizing the types of problems/issues the plan addressed.
 - Guided the types of alternative improvements the study evaluated.

The goals and objectives identified for this study were:

- *Goal 1:* Provide for Community Connectivity for Motorized and Non-Motorized Modes.
- *Goal 2:* Improve Mobility, Safety, Efficiency and Transportation Choices in Watertown and the Surrounding Area.
- *Goal 3:* Provide a Transportation System that Supports Economic Growth and Development.
- *Goal 4:* Provide a Quality, Attractive and Affordable Multimodal Transportation System.
- *Goal 5:* Provide a Transportation Project Development Process that incorporates Public Involvement.

As many of the objectives support more than one goal, the information displayed in the objectives table reference each of the goals supported by the individual objectives.

- **Evaluation of Existing Conditions:** An understanding of the current transportation system is a key activity in the transportation plan, because the existing system and the demands on it are the foundation of future system needs. The existing conditions evaluation included summaries of the various elements of the current transportation system, including current:
 - *Roadways and Streets:* This element includes identifying currently congested corridors and high crash locations.
 - *Trails and Sidewalks:* Includes evaluation of the non-motorized system connectivity and accessibility to housing and employment.
 - *Transit Service:* Includes evaluation of transit ridership and system performance measures.
 - *Air Transportation Service:* Includes evaluation of commercial air ridership and airport usage in comparison to other South Dakota airports.
 - *Intercity Bus Service:* Includes documentation of current service levels.
 - *Truck and Rail Freight Movement:* Includes documentation of current freight companies and rail usage.

Completion of the existing conditions evaluation was a key milestone in the study. An existing conditions report was assembled to summarize the data collected and analyzed through the first phase of the study.

- **2030 Population and Employment Forecasts:** Following documentation of the study area's existing conditions, forecasts of population, housing and employment were completed. These forecasts were required input data to the Watertown regional travel demand model, and were consistent with the *City of Watertown Comprehensive Land Use Plan*.

The development concept is the allocation of the projected 2030 household and employment growth for the Watertown area. The allocation was completed based on the Comprehensive Plan and was finalized by working with city and county planning staff and the study Steering Committee. Table ES-1 shows the population, housing and employment projections for the study area.

Table ES-1. Study Area Population, Household and Employment Projections

Variable	Base Year	2030	Growth
	(2004)		
Population	22,182	32,800	10,618
Households	9,053	13,700	4,647
Persons/Household	2.45	2.39	
Employment			
Service	5,660	9,940	4,280
Retail	2,245	3,230	985
Other	5,288	6,970	1,682
Total	13,193	20,140	6,947

- 2030 Daily Traffic Forecasts:** The Watertown area travel demand model is a computer-based simulation of the Watertown area roadway system, its land uses and its socioeconomic characteristics, established in support of the plan. The travel model was constructed for both existing conditions and to forecast future traffic conditions with the existing-plus-committed transportation network. The existing-plus-committed network is the “base” future year (2030) roadway scenario, which assumes that the existing roadway system is maintained through 2030 and that the only additions to the road system are committed projects (those projects included in the 2005-2009 Capital Improvement Program).

Consultant staff developed daily traffic forecasts using the employment and household projects from the 2030 development concept. The study team assessed the area-wide travel impacts associated with the development concept by looking at forecasted trip generation (number of trips that occur in Watertown) and vehicle miles of travel (summary of the total vehicle mileage traveled on the Watertown roadway system). Table ES-2 documents the trip generation and Vehicle Miles Traveled summary of the development concept.

Traffic forecasts and levels of service are shown for the 2030 existing-plus-committed roadway scenario in Figure ES-2. Level of service is a measure of traffic operating conditions that uses a grading scale, ranging from “A” which indicates little, if any, vehicle delay, to “F” which indicates significant vehicle delay and traffic congestion. For the Watertown area, it was determined that corridors with a level of service “D” or worse in the 2030 existing-plus-committed scenario were not acceptable. Alternatives to improve traffic flow in the deficient corridors, those with 2030 levels of service of “D”, “E” or “F”, were evaluated in the alternatives analysis phase of the study.

TABLE ES-2: TRIP GENERATION AND VEHICLE MILES TRAVELED (2004 AND 2030)

Development Scenario	Total Vehicle Trips	Total Vehicle Miles Traveled
2004 Base Year	111,400	376,200
2030 Development Concept	168,400	617,400
Percentage Change	51%	64%

- **Alternatives Analysis:** After the current and forecasted 2030 transportation system issues and deficiencies were identified, the focus turned to identifying transportation improvement alternatives that would reduce or eliminate the transportation deficiencies and issues. Several alternatives were developed and tested for the Watertown area, based on information gathered primarily through two different means:
 - Input and issues received from the Steering Committee, the stakeholders, public feedback and meetings with local civic groups.
 - Technical analyses performed by the study team of existing and future system conditions.

Each of the alternatives were evaluated relative to a consistent set of criteria from the following “perspectives”:

- Engineering/Traffic Perspective
- Social/Land Use Perspective
- Environmental Perspective
- Public Support/Consistency Perspective
- Cost/Economic Impact Perspective

The alternatives analysis process employed by the study team was based on a multi-level screening process that included developing a list of improvement concepts to evaluate, screening the list to narrow it to the most promising, and finally combining the alternatives into a prioritized plan. The prioritized plan was based on the needs identified, the potential for the alternative to address the issues / deficiencies identified, the impacts associated with the alternative and the dollar cost of the improvement.

PUBLIC INVOLVEMENT PROCESS

It was important that the transportation plan was founded on the consent of the general community and the state. Throughout the plan development process, there was an active public involvement process that involved a variety of methods, summarized in the following bullets.

- A transportation plan Steering Committee was maintained throughout plan development. The Steering Committee was a technical advisory group composed of staff from the city, the SDDOT, the county, the First District Association of Governments and Focus Watertown. Nine meetings were held with the Steering Committee throughout the course of the study.
- A Stakeholders Committee was established as a group of community members that brought a representative and diverse set of interests to the planning process. The Stakeholders were a conduit between the various community constituencies and the study team, assisting in gathering input and providing a sounding board for ideas. Three stakeholders group meetings were held throughout the study.
- Three public meetings were held at various milestones during plan development. The purposes of these meetings were to gather input from the general public and present study progress and recommendations.
- A study website (www.watertowntransportation.com) was established and maintained to provide a constant, always available resource to disseminate information and receive feedback from the general public.
- Various other methods for disseminating information to the public and for receiving their feedback were used and included:
 - *Local Media:* Including interviews with the Watertown *Public Opinion* newspaper and an informational presentation broadcast on the local government television channel.
 - *Study Travel Survey:* Surveys handed to approximately 4,900 motorists included plan information and the plan’s website address. Survey responses included motorists’ suggestions about transportation issues.
 - *Organization Outreach:* Consultant staff made several presentations to local civic organizations.

RECOMMENDED PLAN

The Watertown Area Transportation Plan provides a multi-modal list of recommended improvements that address the current and forecasted future transportation needs for roadways and non-motorized facilities across the region. The plan offers a system-wide strategy for addressing the Watertown area’s needs that:

- Meets the locally identified transportation goals and objectives.
- Supports the mobility desires of the region and the state.
- Identifies recommended projects by balancing impacts and benefits of each.

The recommended non-motorized improvements are documented in Figure ES-3. The recommended roadway improvements are documented in

Figure ES-4, shown by recommended implementation phase. Descriptions and cost estimates associated with each recommended roadway improvement are shown in Table ES-3. The phasing of recommended improvements was placed in three categories:

- Short-Range Projects (0 to 5 years)
- Mid-Range Projects (5 to 15 years)
- Long-Range Projects (15 to 25 years)

Implementation of the projects included in the long range transportation plan requires further evaluations from both capital funding and detailed engineering perspectives. These activities must be completed before the recommended projects can be constructed, and include:

- Inclusion in Statewide Transportation Improvement Program (compete for state funding against other projects in state).
- Preliminary Design.
- Environmental Review and Permitting, required for projects that receive federal funding through SDDOT.
- Final Design.
- Right-of-Way / Property Acquisition.
- State / Local Funding and Jurisdiction Agreements.

For some of the more minor projects, such as new turn lanes or traffic signals, the amount of time it will take for a project to move from the transportation plan to construction could be relatively short. However, significantly more time will be required to complete the pre-construction actions for some of the more major roadway expansion projects, particularly those on the state routes.

Additional transportation recommendations for the Watertown area included:

- *Watertown Area Transit:* Implement three major service enhancements to the capacity of the local transit agency:
 - Implementation of limited fixed route service, while maintaining current demand-responsive (door-to-door) service.
 - Construction of new Watertown bus facility at a central location to consolidate their currently dispersed operations. The new facility would also allow for a central, fixed-stop location for convenient and efficient rider drop-off and pick-up.
 - Expansion of the bus fleet, increasing the current fleet from 4 buses to 8 buses.
- *Watertown Municipal Airport:* Incorporate recommendations from current *Airport Master Plan*.

TABLE ES-3. Recommended Roadway Projects

Project Description		Planning-Level Cost Estimate
A	Widen existing lanes on US 212 from 10th St W to 19th St E.	\$11,000,000
Phase 1	B New south connector route along existing 20 th Ave S. South connector would likely be built in phases.	
	Segment 1: Two-lane south connector route, Highway 81 to 29th St E. Acquire sufficient right-of-way to accommodate future four-lane corridor.	\$3,600,000
	Segment 2: Two-lane south connector route, Highway 20 to Highway 81. Acquire sufficient right-of-way to accommodate future four-lane corridor.	\$5,000,000
	Phase 2	Segment 1: Widen south connector route to four-lane divided roadway, Highway 81 to 29th St E. Improve 17th St E and 23rd St E north of South Connector for improved access to US 212 and adjacent development. Signalize US 81 / South Connector intersection.
Segment 2: Widen south connector route to four-lane divided roadway, Highway 20 to Highway 81.		\$8,000,000
B2	I-29 interchange at 41st St E underpass that would connect to south arterial concept via new alignment west of I-29.	\$5,900,000
C	Improved collector/backage road system south of US 212.	\$2,600,000
D	Implement Highway 212 access management plan from 14th St W to 19th St E.	Part of Project A.
E	As development warrants, construct grid of 2-lane collectors and minor arterials to support future land development east of 19th Street and north of US 212. 6.7 miles of improvements include: 25th St E and 31st St E from 1st Ave N to 26th Ave N, 3rd Ave N from 19th St E to 31st S	\$15,100,000
E2	3rd Ave N connection between Alternative E and 43rd St E via I-29 overpass. Include sidewalks and/or trail to accommodate non-motorized access across I-29.	\$4,000,000
F	Add center left-turn lane to 19th St E from 8th Ave N (end of current center left turn lane) to 26th Ave N. Construct sidewalks.	
	Segment 1: Add center left-turn lane from 8th Ave N to 14th Ave N. Segment 2: Add center left-turn lane from 14th Ave N to 26th Ave North.	\$975,000 \$1,625,000
G	Add left-turn lanes along 14th Ave N at major intersections.	
	Segment 1: Left Turn Lanes at 19th St E and 11th St E Segment 2: Left Turn Lanes at future 25 th St E	\$180,000 \$90,000
H	Develop grid of 2-lane collector and arterial streets to support future development north of 14th Ave N. 3.5 miles of improvements include: 20 th Ave N and 11th St E.	\$7,700,000
I	Surface and improve 43rd St E/458th Ave from US 212 to 26th Ave N	\$3,000,000
J	Implement access management measures on US 81 between C Ave and 1st Ave S	Part of US 81 TIP Project (2009)
K	Improve 2nd St W north of 14th Ave N to serve future development.	\$2,100,000
L	Realign Golf Course Rd - South Lake Dr Intersection	\$50,000
M	Eliminate curve between west and north legs at 20th Ave S/Broadway. Make 20th Ave through movement.	\$150,000
N	Add traffic signal to intersection of 21st St W/US 212.	\$120,000



- *Corridor Preservation:* Corridor preservation is the application of measures to prevent or minimize development within the right-of-way of a planned transportation facility. The plan offers methods to reserve corridor right-of-ways in locations anticipated for future widenings or new transportation corridors.
- *Access Management Recommendations:* Access management aims to control the locations of property access (driveways) and local street connections in a corridor with the goal of improving traffic flow and safety. Access management can be applied to developing corridors or retrofitted to older, fully developed corridors. Specific access management recommendations were made to improve safety and traffic flow in both fully-developed corridors and in developing corridors.
- *Transportation Plan Implementation/Ongoing Watertown Planning Process:* The plan is an opportunity to formally establish an ongoing, collaborative transportation planning process for the Watertown Area. Following adoption of the plan, it is recommended that the transportation Steering Committee meet annually or semiannually to update the project development process. The following elements of the transportation plan should be updated every five years:
 - Review the transportation plan projects that have and have not been implemented and update the plan and city and state Transportation/Capital Improvement Programs accordingly.
 - Review and recalibrate the area-wide travel model.
 - Update socio-economic projections and the development concept.
 - Update the plan goals and objectives as a result of shifts in local development, transportation or funding capabilities / philosophies.
 - Update the roadway, transit and trials elements of the plan.