

Transportation

Introduction

Dubuque County's transportation system is vital to everyday life within the region. Locally, the transportation system facilitates the movement of people and goods within the region. The system allows residents to get from their homes to employment, education, medical care, and shopping. The transportation system also allows people and goods to move in and out of the region. Businesses import products and raw materials from outside the region, and export goods and commodities to other regions. Connections to regional transportation networks allow businesses to conduct these transactions quickly and efficiently, and allow the region to compete in the global market place.

Along with the benefits from transportation, come unintended negative impacts. If left unchecked, pollution, noise, congestion, safety, and high maintenance costs can diminish quality of life for local residents. In addition, some segments of the population such the disabled, the elderly, and low-income populations are not able to access the transportation system. Through the Smart Plan, the Consortium will strive to provide efficient and affordable transportation to residents and businesses while striving to minimize the negative impacts. The Consortium will work to provide diverse and interconnected modes of transportation, accessibility, safety, and improved environmental quality.

Transportation Planning

Smart Planning Consortium members coordinate with two regional transportation planning agencies, the Dubuque Metropolitan Area Transportation Study (DMATS) and Regional Planning Affiliation 8 (RPA 8). DMATS is a tri-state Metropolitan Planning Organization (MPO) that includes the cities of Dubuque, Asbury, Peosta, a portion of unincorporated Dubuque County, and portions of Jo Daviess County, Illinois, and Grant County, Wisconsin. The Regional Planning Affiliation (RPA 8) is a four-county region including the counties of Clinton, Delaware, Dubuque, and Jackson. Both agencies are responsible for approving goals and plans for the development of a seamless transportation system for the safe and efficient movement of people and goods within and among modes of transportation (roads, bicycle and pedestrian facilities, transit, rail, water and air) in the area. DMATS and RPA 8 encourage cooperation among local, regional, state, and federal agencies on transportation issues and plans.

The Dubuque County Smart Plan provides an overview of the County's transportation system. More detailed transportation information can be found in the DMATS and RPA long range transportation plans (LRTP). A long range transportation plan focuses on transportation related issues in a specific area over a 20-year period. Federal law requires that MPOs update their LRTPs every five years. The LRTP provides a view of the current transportation trends in the area, as well as an aid in projecting potential changes for the area into the future. Both plans are available for download at www.eciatrans.org.

Roadways

The predominant transportation system in Dubuque County is a network of streets and highways that are used by automobiles and trucks. These roadways serve the circulation needs of local residents,

employers, and people traveling from outside the area. The following describes the roadway system in the County in terms of its functional classification, existing capacity, congestion, and safety.

Functional classification describes a roadway based on the type of service that it provides. Roadways provide two basic types of service: land access and mobility. The degree to which a roadway provides access and/or mobility determines its functional classification. The key to planning an efficient roadway system is finding the appropriate balance between mobility and accessibility. The following defines the functional classifications found in Dubuque County.

Principal Arterial roadways primarily serve a mobility function with minimal land access. The primary purpose of principal arterials is the rapid movement of people and goods for extended distances. Principal arterials are high capacity, high-speed roadways with restricted access. US 20 west of Swiss Valley Road in Dubuque County is an example of a principal arterial.

Minor Arterials interconnect with and augment principal arterials. Minor arterials within urban areas serve inter-community trips of moderate length. Although the primary purpose of the minor arterial is mobility, this functional class provides more access points and more land access than a principal arterial. John F. Kennedy Road in the City of Dubuque is a local example of a minor arterial.

Major Collector streets channel trips between the local street system and the arterials. Major collectors serve a balance between mobility and land access. Parking and direct driveway access to the street are typically allowed on major collectors. Collectors are usually wider, have higher capacity, and permit somewhat higher speeds than the local street network. Chaney Road in the City of Dubuque is designated as a collector street.

Minor Collectors & Local Streets primarily provide local land access and offer the lowest level of mobility. Characteristics of local streets include uncontrolled intersections, posted speed limits of 25 miles per hour or less, and few restrictions on parking. Local streets include all streets not classified as interstate, principal arterial, minor arterial, or collector.

The chart below lists the miles of roadway in Dubuque County in terms of functional classification. **Maps 2.1 through 2.8** display the location of the primary roads in Dubuque County by Functional Classification.

	Total Roadway Miles
Principal Arterial	121
Minor Arterial	71
Major Collector	174
Minor Collector	157
Local Streets	792
Total	1,314

Level of Service

Level of Service (LOS) is a qualitative measure describing conditions within a traffic stream, based on speed, travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. LOS is determined by calculating the Volume to Capacity (VC) ratio, where the traffic volume, observed or forecasted, is divided by the estimated capacity of the roadway. LOS “A” represents complete free flow of traffic, allowing traffic to maneuver unimpeded. LOS “F” represents a complete breakdown in traffic flow, resulting in stop and go travel. VC ratios were calculated using 2009 Iowa DOT traffic counts. See **Map 2.9** for the current level of service in Dubuque County

Future Needs

Map 2.10 shows the future level of service for roads in Dubuque County for the year 2040. Again, level of service was determined based on the ratio of volume to capacity of the road segment. Future traffic volumes were estimated using data from the Iowa Department of Transportation’s statewide travel demand forecast model. The map presents a scenario of what would happen if traffic volumes continued to increase while the road network remained the same.

Based on the Iowa DOT’s forecast, if no changes are made to the transportation network, by the year 2040 several of Dubuque County’s main thoroughfares, including Asbury Rd, NW Arterial, and US Hwy 20 will be severely congested. Congestion of this magnitude will negatively affect quality of life and the regional economy. To prevent this from happening, local governments will need to either increase the capacity of the road network, or reduce the number of vehicles on the road.

In the past, adding capacity has been the standard remedy to roadway congestion. Adding additional lanes to roads is an effective way to reduce congestion, however this can be very costly, and it may only be a short time before the newly expanded road is once again congested. In recent years, cities have turned to strategies that attempt to reduce the number of cars on the road. Encouraging a multi-modal transportation system that includes walking, biking, and mass transit is a method for removing vehicles from the road and reducing congestion. Many cities have also implemented new technologies that reduce congestion by improving the efficiency of the transportation system. The Smart Planning Consortium will work with the regional transportation planning agencies to develop a strategy for limiting congestion.

Transportation Safety

Safety is an important consideration when planning for the future of the transportation system. Outdated or deteriorating infrastructure, high traffic volumes, or unsafe driver behavior are all potential causes of safety issues that can lead to serious injury or death. Transportation planners use crash data to identify areas on the road network where the number of crashes is higher than expected. Once identified the local government can take action to correct the problem. Iowa Department of Transportation provides crash data for all counties in the state. Using data from the last nine years, (2001-2009) of crash data, staff created maps to illustrate the distribution of fatal crashes, and crashes causing major or minor injuries. The maps are used identify locations experiencing more crashes than would normally be expected. See **Maps 2.14 -2.21** for Iowa DOT crash data.

Transit

Dubuque County is served by two fulltime transit systems and one volunteer transit program. The Jule (formerly known as Keyline Transit) serves the City of Dubuque, Region 8 Regional Transit Authority (RTA) serves Dubuque County, and DuRide is a nonprofit program that serves residents older than sixty-five.

The Jule provides public transportation for citizens to and from their destinations on fixed routes and door to door services. The Jule currently operates seven fixed route lines within the city limits of Dubuque. See **Map 2.11**. Fixed route service provides Dubuque citizens with access to services, shopping, entertainment, community functions, and employment opportunities within the City. The Jule operates a fleet of (14) 30-35' fixed route buses all equipped with ADA accessible lifts. Fixed route hours of service are from 6:00 a.m. to 6:20 p.m., Monday through Friday and from 8:00 a.m. to 5:30 p.m. Saturday.

The Jule's minibus provides seniors and persons with disabilities with demand response transportation and passenger assistance anywhere within Dubuque city limits. Passengers request minibus services by calling the transit operator, who dispatches a vehicle to pick up and transport the passenger to their destination. The minibus is available to anyone over the age of 65 or anyone over 18 with a documented disability. Minibus hours of operation are Monday through Friday between 6:20 a.m. and 6:00 p.m. and Saturdays between 7:50 a.m. and 5:30 p.m. The Jule currently operates 10 ADA accessible light duty buses.

The Region 8 Regional Transit Authority (RTA) provides ADA accessible transportation to the cities and rural areas of the Regional Planning Area 8 which includes Delaware, Dubuque, and Jackson Counties. RTA provides many cities with daily inter and intra-city service, while other communities have service several times per week. The RTA also serves rural residents through its demand response service. The Region 8 RTA operates a fleet of 27 lift equipped light duty buses, 2 ramp accessible minivans, and 2 non-ADA standard vans. **Map 2.12** shows RTA's transit routes within Dubuque County.

DuRide is a volunteer operated nonprofit transportation program. Volunteers use their own vehicles to provide at-cost rides to Dubuque, Asbury, and East Dubuque residents age 65 and older. DuRide charges a \$40 annual fee and a small pick up fee of three to five dollars for each trip. DuRide uses an account system so riders do not have to pay during their ride. Consumers are encouraged to donate their vehicles they no longer use, in exchange for credit towards their ride account.

Future Needs

As part of the DMATS and RPA 8 2011-2015 Passenger Transportation Plan (PTP), staff conducted a public input process. The goal of this process was to identify steps transit providers could take to improve the system. The following were the top five improvements identified for The Jule and the RTA through the public meetings and surveys.

RTA

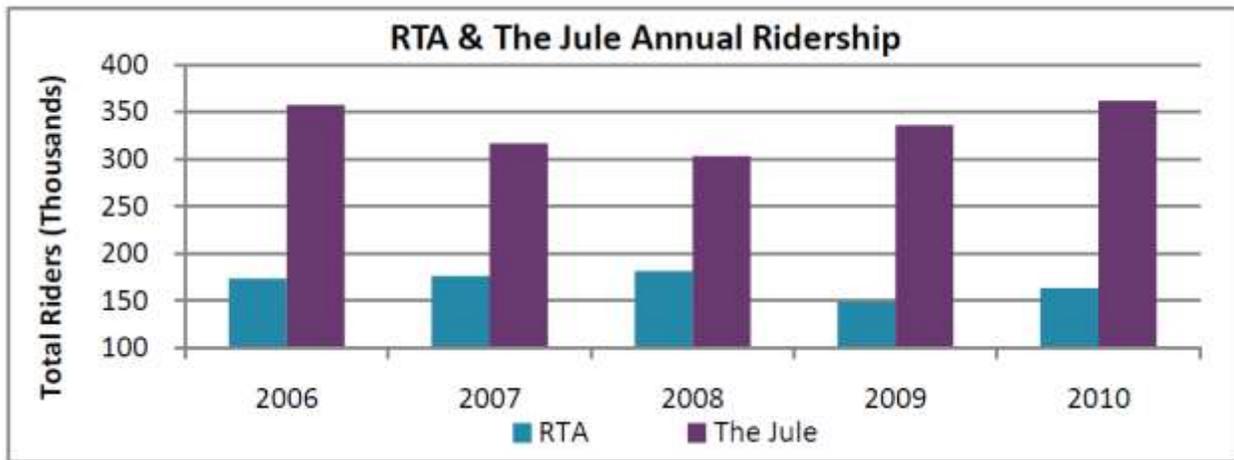
1. Expand hours and days of service

The Jule

1. Expand house and days of service

2. Maintain a constant schedule
3. Expand services within Dubuque
4. Expand service to the West End
5. Add an extra Iowa City route
2. Provide greater accessibility to services
3. Expand services within community
4. Cover a greater geographic area (Key West & West End)
5. Market employer incentives for mass transit

The Jule and the RTA hope to improve transit service and increase ridership by implementing the improvements listed above. The chart below shows the annual ridership for the Jule and the RTA for the past five years.



Bicycle and Pedestrian

Non-motorized transportation is a key component of a multi-modal transportation system. Good walking and biking facilities can improve quality of life by reducing the number of vehicles on the road, promoting an active lifestyle, attracting visitors to the area, and providing a low cost mode of transportation. In recent years, Dubuque County has worked to integrate bike and pedestrian facilities into its transportation network. However, according to the 2000 census only four percent of the population walked to work, and less than one percent rode a bike. The Smart Planning Consortium will support programs that make walking and biking safer and more convenient. This element of the Smart Plan will focus on the development of the bike and pedestrian segment of the regional transportation system.

Dubuque County's bike and pedestrian facilities fall into two categories, separated and on-street facilities. A separated facility is a bikeway/walkway physically separated from motorized traffic by open space or barrier either in the highway right-of-way or in an independent right-of-way. Separated facilities are suitable for all pedestrians and bicyclists. Examples of separated facilities in Dubuque County include the Heritage Trail and the NW Arterial Trail. When using on-street routes, bicyclists share space with motorized vehicles. On-street routes can take several forms including bike lanes or shared roadways. In some cases, a portion of the roadway is designated for the preferential or exclusive use of bicyclists by striping, signing, and pavement markings. In other cases, an on-street route is

designated by signage that indicates that the route is safe for bicyclists. The Eagle Point On-Road Route in the City of Dubuque is an example of a signed on-street route, and Radford Road in the City of Asbury is an example of a bike lane.

When planning a bicycling, hiking, and walking system, local governments should design a system that will accommodate as many users as possible. The system should take into consideration the differing abilities of the potential riders using the system. The Federal Highway Administration (FHWA) uses the following categories of bicycle users to assist in determining the impact that different facilities and roadway conditions will have on the bicyclist. Group A riders have the most experience, and are comfortable riding on most city streets. Group B bicyclists are less experienced and prefer riding on separated trails or low speed low traffic volume streets. Group C bicyclists are children. Children often use bicycles to get to school or recreation, but require well defined separation from motor vehicles.

The Bicycle Federation of America estimates that out of nearly 100 million people in the United States that own bicycles, roughly 5 percent qualify as Group A bicyclists, with the remaining 95 percent as Group B and C bicyclists. See **2.13** for the bike and pedestrian facilities in Dubuque County.

Future Needs

Safety – Improving bicycle and pedestrian safety will be a primary concern for the Dubuque County Region. According to data compiled by the group Transportation for America, when compared to other metro areas in Iowa, Dubuque County has the highest percentage of traffic deaths that were pedestrians (9.0%), and is tied for the second highest per capita pedestrian fatality rate (0.8). See Chart below.

Pedestrian Fatality Data (2000-2009)

Metro area	Total pedestrian fatalities	Percent of all traffic deaths that were pedestrians	Fatality rate per 100,000 persons	2009 population
Dubuque	7	9.0%	0.8	93,072
Ames	6	8.0%	0.7	87,214
Omaha-Council Bluffs	64	8.0%	0.8	849,517
Sioux City	14	8.0%	1	144,360
Davenport-Moline-Rock Island	25	6.8%	0.7	379,066
Des Moines-West Des Moines	34	6.8%	0.6	562,906
Waterloo-Cedar Falls	12	6.7%	0.7	164,913
Cedar Rapids	13	5.7%	0.5	256,324
Iowa City	6	3.8%	0.4	152,263

Data Source: *Dangerous by Design 2011*, Transportation for America.
<http://t4america.org/resources/dangerousbydesign2011/states/?state=ia>

Distance – Apart from the City of Dubuque, Dubuque County is a low-density rural region. The County’s rural character means that walking or bicycling to a destination can be difficult because of the long

distances involved. Local governments can help reduce travel distances by encouraging compact development that reduces sprawl and promotes land use patterns that create more walkable neighborhoods. Examples of this include conservation subdivisions, mixed-use development, and infill development.

Infrastructure – Incomplete infrastructure is prevents many Dubuque County residents from walking and biking. **Map 2.13** shows that there are many gaps in the regional trail and on-street bicycle route network, and many towns in the County have incomplete or inadequate sidewalk networks. Local governments can fill the gaps in the bicycle and pedestrian network working to obtain funding for trails and other facilities, and by exploring new sidewalk or Complete Streets polices. Complete Streets are designed to allow pedestrians, bicyclists, and transit to travel safely alongside automobiles.

Freight

The efficient movement of goods is one of the keys to effective competition in the world market system. As a result, policy makers, industry specialists, and transportation planners have recognized that an efficient freight system is fundamental for economic development in Dubuque County. This section focuses on the three freight modes which are most active in the Dubuque County: water-borne, truck, and rail. Each of the freight modes are described separately, but the different modes are often used in combination, which is referred to as intermodal freight transport.

The Mississippi River serves as a valuable asset to Dubuque County, providing direct connectivity to 10 states and numerous cities. The river is currently being used for incoming and outgoing freight. The County is also located on US Hwy 20, US Hwy 61/151, and US Hwy 52. (See **Map 2.1**) These highways provide a ground connection to the rest of Iowa, Illinois, and Wisconsin and the nation. The rail system that passes through the region is another valuable resource. Two rail lines pass through Dubuque County. The Canadian National Railroad runs east and west across the county, and the Canadian Pacific runs north and south through the county along the Mississippi River. (See **Map 2.1**) Air transport accounts for a small portion of the freight moving in and out of Dubuque County. Cedar Rapids, IA and Rockford, IL are located within reasonable driving distance and both serve as major air freight hubs for the surrounding area.

This element of the Dubuque County Smart Plan plan will focus on the current and predicted freight movement patterns as well as existing barge, and rail facilities in the region. Freight data used was compiled for the Iowa DOT by Reebie Associates in 2000.

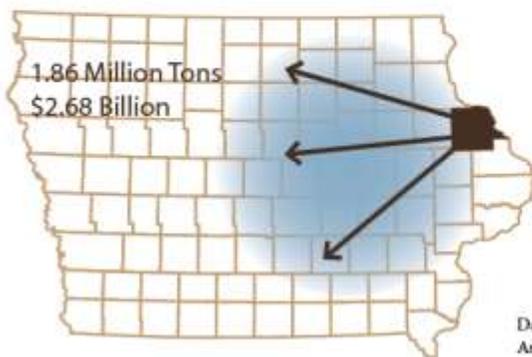
Freight moving out of Dubuque County to the State of Iowa consists mainly of products in the following categories: ordnance or accessories, food or kindred products, and chemicals or allied products. Freight originating in Dubuque County was expected to increase by 66.9% between 2001 and 2011. Freight moving into Dubuque County from in state, consists mainly of products in the following categories: Food or kindred products, primary metal products, machinery, and lumber or wood products. Freight terminating Dubuque County was expected to increase by 69.5% between 2001 and 2011.

Freight moving out of Dubuque County and the state of Iowa consists mainly of products in the following categories: chemicals or allied products, food or kindred products, and transportation equipment. Freight originating in Dubuque County was expected to increase to all surrounding states and national regions with exception of the North Prairie region. Freight moving into the Dubuque County, not including that from in state, consists mainly of products in the following categories: chemicals or allied products, fabricated metal products and primary metal products. Freight terminating in Dubuque County was also expected to increase from all states and national regions with the exception of North Dakota.

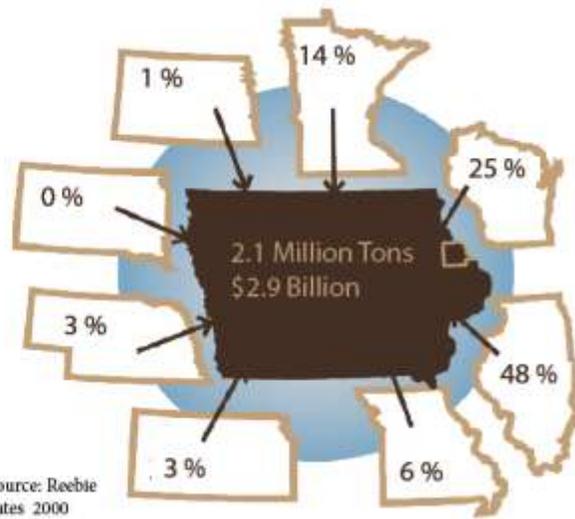
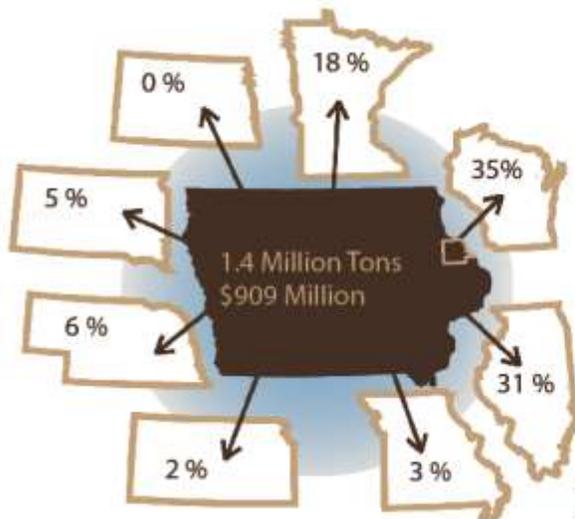
Total Freight Movement

Originating Tons: 4.53 Million
Originating Value: \$4.82 Billion

Terminating Tons: 6.42 Million
Terminating Value: \$6.32 Billion



Data Source: Reebie Associates 2000



Data Source: Reebie Associates 2000

For more information on Dubuque County Freight Transportation, please refer to the RPA and DMATS Long Range Transportation Plans. www.eciatrans.org.

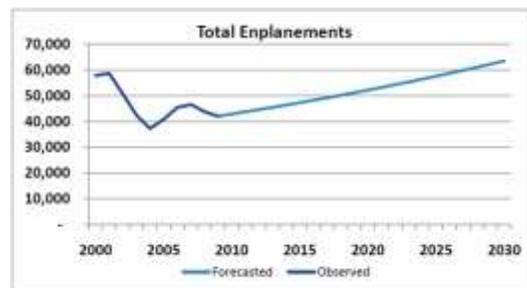
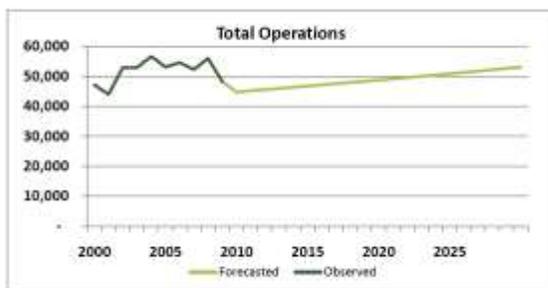
Airport

The Dubuque Regional Airport is located approximately seven miles south of downtown Dubuque on US Hwy 61. (See **Map 2.1**) The airport occupies 1,057 acres and has a field elevation of 1,076 feet. The airport opened at the present location in 1948. The airport has two runways and five taxiways to support air operations. Runway 18-36 is a north-south oriented runway that serves as the airport’s primary runway. The runway is 6,325 feet long and 150 feet wide. Runway 13-31 is a northwest-southeast oriented runway and serves as the airport’s secondary runway. The runway is 6,498 feet long and 100 feet wide. Taxiways provide access to both of the runways and consist of parallel, connecting, access and entrance/exit taxiways. American Eagle Airlines offers four daily flights from the Dubuque Regional Airport to Chicago O’Hare International Airport.

The Dubuque Regional Airport’s groundside facilities serve passengers, freight, airport administration, and general aviation needs. The original terminal building was constructed in 1948, and a new terminal was constructed next to the existing one in 1969. In 1989, the two buildings were remodeled and combined to form the 11,656 square foot terminal that exists today. Other airport buildings include six T-hangers and six conventional/executive hangar buildings. The airport has 440 parking spaces in five parking lots that are available for use by airport patrons, employees, and other airport users.

The Dubuque Regional Airport Master Plan guides City of Dubuque in the overall development of the airport. Coffman Associates, Incorporated of Lee’s Summit, Missouri, updated the plan in 2004. According to the Airport Master Plan, Based aircraft at the airport totaled 79 aircraft in 2003. There were an estimated 55,009 total annual operations conducted in 2003. Of that total, general aviation had 48,447 operations, commercial carriers had 6,489 operations, and the military had 73 operations. In recent years the number of aircraft operations and revenue enplanements has decreased. (See charts below).

The Federal Aviation Administration (FAA) produces annual Terminal Area Forecasts (TAF) for active airports in the National Plan of Integrated Airport systems. TAF reports include forecasts of enplanements, aircraft operations, and number of based aircraft. The charts below show the observed operations and enplanements from 2000 to 2009 and the TAF forecasts to 2030. The events of 9/11, the loss of an air carrier, and the recent economic recession have negatively impacted airport activity over the past decade. The TAF forecasts expect a reversal of this trend, with a period of steady growth in both operations and enplanements over the next twenty years.



Data Source: FAA Terminal Area Forecasts 2011

Special Transportation Initiatives

Consortium members are currently partnering with private businesses, non-profit organizations, and individuals to implement several special initiatives within the region. This section will present three of these initiatives: Safe Routes to School, Sustainability, and Intelligent Transportation System improvements. These initiatives are aimed at improving the quality of life in Dubuque County by making the region more sustainable, improving the transportation system, and improving safety and security.

The goal of the Safe Routes to School (SRTS) program is to enable community leaders, schools and parents across the United States to improve safety and encourage more children to walk and bicycle to school safely. The Dubuque Safe Routes plan seeks to achieve this goal through two objectives. The first objective is to involve a variety of local entities in the planning process. Involving city, county, and school officials in the planning process will ensure that parents, local governments, and the schools are communicating and working together on walking and biking projects. The second objective of the plan is to provide a list of projects for each school that, when implemented, will provide students with safer opportunities to walk and bike to school and encourage students to take advantage of these opportunities. The project list can be used to guide future investments in walking and biking. Following success of the SRTS planning process within the City of Dubuque, DMATS received grant funding to implement the SRTS planning process in the Western Dubuque School District. Planning funds were awarded in January of 2009, and the planning process is currently underway. For more safe routes information please visit <http://www.eastiowasaferoutes.org/>.

The City of Dubuque has committed to continuing to use Intelligent Transportation Systems (ITS) to improve safety and traffic flow within the City. According to the City of Dubuque's ITS System plan, ITS technology "is used to coordinate signals and improve traffic progression, reduce incident clearance times, improve real-time traveler information, and enhance special event management." Technologies used include message boards, traffic sensors, traffic cameras, fiber optic communications, and wireless communications. The City of Dubuque has begun construction of a fiber optic backbone along the Iowa Highway 32 (Northwest Arterial) and through other parts of the downtown area. A long-term signal communications loop would minimize the impact of losing signal communications. For more ITS information, please refer to the City of Dubuque's ITS System Plan.

<http://www.cityofdubuque.org/index.aspx?NID=1265>

DMATS has undertaken an initiative to align the transportation system with the principals of sustainability. A sustainable transportation system is one that provides transportation in a way that promotes Environmental/Ecological Integrity, Economic Prosperity, and Social/Cultural Vibrancy. One way the city is implementing this initiative is through a Complete Streets policy. In April of 2011, the City of Dubuque adopted a complete streets policy. According to the policy, complete streets are those "streets that support and invite multiple uses, including safe, active, and ample space for pedestrians, bicycles, and public transportation, are more conducive to the public life and efficient movement of people than streets designed primarily to move automobiles and trucks." The policy requires that the Dubuque City council consider complete streets when building or rebuilding a street.