

FHWA's Fostering Livable Communities Newsletter

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Introduction

The Federal Highway Administration (FHWA) Fostering Livable Communities Newsletter is intended to provide transportation professionals with real-world examples to help them improve the relationship between transportation and communities, such as providing access to good jobs, affordable housing, quality schools, and safer roads. This issue focuses on rural livability initiatives. Rural communities across America are working to strengthen their economies, provide better quality of life to residents, and build on assets such as traditional main streets, working lands, and natural resources. The Partnership for Sustainable Communities (PSC)—made up of the U.S. Department of Housing and Urban Development (HUD), the U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA)—is coordinating with the U.S. Department of Agriculture (USDA) to reinforce these initiatives and ensure that the four agencies' policies and programs support rural communities' efforts to be economically vibrant and environmentally sustainable. For more information on sustainable rural communities, view the [Supporting Sustainable Communities Report](#) developed by the PSC. To learn more about FHWA's Livability initiative, please visit FHWA's Livability website: www.fhwa.dot.gov/livability. To read past issues of the newsletter, visit <http://www.fhwa.dot.gov/livability/newsletter/>. To subscribe to the newsletter, visit [GovDelivery](#).

Creating more livable communities through transportation choices



The Partnership for Sustainable Communities Celebrates Its Three Year Anniversary

Lilly Shoup, Policy Analyst

U.S. Department of Transportation – Office of the Secretary of Transportation

On June 28th, 2012, senior officials from HUD, DOT, and EPA convened a meeting in Washington, D.C. with more than 50 local government and business leaders to discuss the role of sustainability in job creation. The gathering was in recognition of the third anniversary of the Partnership for Sustainable Communities. The purpose of bringing local government and business leaders together at the White House forum was to discuss how the Partnership agencies can support robust regional economies through planned investments and harmonized rules and codes to attract businesses and generate jobs.

Since 2009, the Partnership has provided over \$3.5 billion in grants to more than 700 communities in all 50 states, the District of Columbia, and Puerto Rico, and has funded 744 projects. The PSC recently developed a report of accomplishments, *Three Years of Helping Communities Achieve Their Visions for Growth and Prosperity*, which is available on the Partnership website at:

www.sustainablecommunities.gov/pdf/partnership_accomplishments_report_508%20compliant_final_062112.pdf.

South Dakota Towns and Counties Address Livability in Long-Range Transportation Plans

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FHWA – South Dakota Division

The South Dakota Department of Transportation (SDDOT) recently implemented a program that provides Statewide Planning and Research (SPR) funding to counties and small cities not affiliated with Metropolitan Planning Organizations for transportation planning activities. The State solicits candidate planning studies annually and awards funding on a competitive basis. Under this program, the cities of Spearfish and Brookings, South Dakota, developed long-range transportation plans that addressed livability principles. Both plans were fully funded by SPR.

The objectives of the Brookings Area Long-Range Transportation Plan are to:

- Encourage an energy efficient system that provides adequate access to high volume traffic generation points.
- Minimize negative transportation effects upon residential neighborhoods.
- Promote efficient traffic flows around residential institutional uses such as schools, churches, and major public recreation areas.
- Promote the installation of sidewalks and trails to facilitate safe travel for pedestrians and bicyclists.

The objectives of the Spearfish Area Long-Range Transportation Plan are to:

- Address how the transportation system can enhance livability within the Spearfish community, particularly emphasizing travel by public transit, bicycling, and walking.
- Provide a master street plan that frames the existing system and identifies future improvements.
- Coordinate transportation planning efforts across multiple jurisdictions, including the city of Spearfish, Lawrence County, SDDOT, and FHWA.

Federal Highway Administration: www.fhwa.dot.gov/livability
Partnership for Sustainable Communities: www.sustainablecommunities.gov/



- Develop a plan that complements the engineering standards currently being developed by the city of Spearfish.
- Identify priorities among future transportation improvement projects.

Extensive public involvement occurred during the development of the Brookings and Spearfish Area Long-Range Transportation Plans. Along with various public meetings, surveys were used to determine the transportation needs of the communities. Both plans emphasized the need to provide transportation choices, including transit, and since both towns have universities, both plans addressed transportation options for students. South Dakota State University in Brookings is reconfiguring parking and roadways to encourage walking and bicycling on campus. The FHWA South Dakota Division Office served on the study advisory committees, and continues to encourage the incorporation of livability principals in the development of transportation plans.

The SDDOT's initiative to fund small urban and rural counties for transportation planning has been very successful, and has generated activity where very little planning had previously occurred. In addition to the two aforementioned efforts, three new transportation plans are nearing completion for Pennington County, Brown County, and the city of Vermillion, and plan development will soon start for the city of Aberdeen and Brookings County. SDDOT's willingness to share SPR funding with local communities is enhancing transportation planning and livability in South Dakota.

Dickinson 2035: A Roadmap to the Future

Stephanie Hickman, Transportation Planning and Research Manager
FHWA – North Dakota Division

Dickinson, North Dakota is growing rapidly due to expanding oil exploration and drilling in western North Dakota, and the city was identified as the fourth fastest growing micro area¹ in the nation. The 2010 census reported a population of 17,600, but the population has subsequently expanded to a current estimate of 21,000, and an additional 11,000 residents are expected to move in over the next two to three years. Most new residents reside in non-traditional housing, such as campers, mobile homes, RVs, and hotels. The growth of the oil industry has significantly impacted employment levels, housing costs and availability, and the need for transportation.

After viewing the growth patterns for other North Dakota communities impacted by the oil boom, the city of Dickinson decided to proactively address the probable future impacts before they adversely affected the community. The city leadership determined that a long-range plan (LRP) would allow the community to manage growth.

The LRP, called Dickinson 2035, is a comprehensive plan addressing transportation, land use, housing, and urban services. The city is developing the plan with input from the public and several stakeholders, including the FHWA North Dakota Division Office, and the North Dakota Department of Transportation (NDDOT). The plan is partially funded through the FHWA Statewide Planning and Research Program (SPR).

Livability Principles

In a survey conducted for the LRP, residents noted several livability-related concerns including housing availability and expense, traffic volumes and safety, and the overall quality of life in the city. Residents also noted which issues needed the most attention, and over 63 percent of the respondents mentioned housing availability and/or costs, while over 75 percent

¹ "Micro Area" is defined as an urban cluster with a population of greater than 10,000 but less than 50,000.



mentioned truck volumes and infrastructure improvements. Survey respondents also identified economic development as a key issue. Although employment opportunities have increased, so have the costs to businesses and residents. Many small businesses are unable to retain workers because the oil workers are paid much higher salaries. Education and emergency services were also key areas of concern.

Based on public input, the Dickinson 2035 planning committee created vision statements, and adopted goals and strategies in the following areas: Transportation; Land Use; Housing; Infrastructure; Recreational and Cultural Opportunities; City Services; Economic Development; and Environmental and Natural Resources. The city already has begun to address these key areas by working with developers and the university to identify opportunities for expanded affordable housing. In addition, the NDDOT is working with the city to address the large volumes of oil traffic through the city with a possible truck route on the city's north and west sides.

Dickinson also participates in other livability-related initiatives, and is part of a consortium of counties and cities which received a grant from the U.S. Department of Housing and Urban Development (HUD) to address emerging growth challenges. [Vision West ND](#) will implement the following seven initiatives: 1) locally-based economic development strategic plans, 2) a regional sustainability plan, 3) development of an infrastructure assessment, 4) identification of best practices for local planning policy and codes, 5) an entrepreneurship initiative and partnership with the Western North Dakota Energy Project, 6) schematic visioning, and 7) plan implementation. The city of Dickinson is also mentoring two smaller communities that have received [Building Block grants](#) from the EPA, providing guidance for comprehensive planning.

Dickinson continues to work toward completion of its LRP, which will likely conclude in early 2013. Coupled with the HUD and EPA livability grants, the LRP will allow "The Queen City" to manage its development and plan for a vibrant future.

Additional information is available at: <http://www.dickinsonplan.com>.

New Freight and Livability Presentation

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FHWA – Texas Division

Freight movement is important for economic growth and development in rural communities, as commodities including timber, fuel, and agricultural products must be moved from rural areas where they are produced, to urban areas where they are consumed, processed, or exported. Changes in freight movement can influence the livability of rural communities. For example, numerous rail mergers in the 1990's resulted in the abandonment of rural branch lines and the loss of rail freight service to many areas with an associated increase in trucking on the rural road system to compensate for this loss. Increased trucking on rural roads ultimately increases road maintenance needs and reduces the financial capability of the rural area and state to keep the roads in adequate condition. ²

"The Freight and Livability presentation shows how FHWA is leading the way toward better understanding its role in providing balanced freight alternatives as part of the livability and sustainability movement..."

Lilly Shoup, Office of the Secretary of Transportation

² http://www.fhwa.dot.gov/planning/publications/rural_areas_planning/page03.cfm



Over the past year, the FHWA Headquarters Office of Freight Management and Operations (HOFM) developed a PowerPoint presentation entitled “Freight and Livability.” This 20-minute presentation was initially delivered at an FHWA “Talking Freight” webinar held in June of 2011,³ and more recently as part of a March 15th national webinar on this subject sponsored by FHWA in conjunction with the California Air Resources Board and the University of South Florida.⁴



Figure 1: This freight rail facility in Montreal, Canada abuts commercial and residential areas.

The purpose of the “Freight and Livability” presentation is to explore linkages between freight movements and livability, while highlighting examples of transportation projects and programs underway that improve the quality of life for communities across the United States. In addition, the presentation highlights the six major goals of the PSC and how these goals may influence the development of intermodal freight programs and projects. For additional information or to receive a copy of the presentation, please contact Chip Millard of HOFM at 202-366-4415 (chip.millard@dot.gov) or Kirk Fauver, Statewide Planning Engineer (FHWA Texas Division) at 614-280-6839 (kirk.fauver@dot.gov).

Whitefish, Montana Improves Livability on Main Street

Dan Smith, Recovery Act Coordinator
FHWA – Montana Division

Whitefish is a small city in the northwest corner of Montana that is known for its scenic location and recreational opportunities. The city has a traditional downtown area with many of the local shops and services clustered around its “main street,” which passes through the heart of the town. Unfortunately, the Whitefish “main street” is also U.S. Highway 93, which bisects the retail core and carries in excess of 15,000 vehicles per day and 330,000 non-resident visitors each year. Until recently, the route had obsolete traffic signals that contributed to traffic congestion and safety concerns, particularly for pedestrians.

³ For additional information on the 06/15/2011 webinar, access: http://www.fhwa.dot.gov/planning/freight_planning/talking_freight/11talking.cfm

⁴ For a recording of the 03/15/12 “Freight and Livability” presentation, access: <https://connectdot.connectsolutions.com/p85jdv8f86b/>





Figure 2: The U.S. Highway 93 2nd Street Improvement Project brought many new pedestrian-friendly amenities to downtown Whitefish, Montana.

Consequently, Whitefish embarked on a plan to create a healthier, more vibrant downtown with the goal of fostering economic development and livability for years to come. The Whitefish Downtown Business District Master Plan was born through the innovative and progressive collaboration of the city of Whitefish, the Heart of Whitefish (a non-profit organization), the Montana Department of Transportation, citizens, property owners, and business owners. It was issued in 2005 and provides a long-term blueprint for improving community livability and strengthening downtown Whitefish. A key component of the Master Plan is to improve traffic flow on U.S. Highway 93 through the downtown and balance the need to move a high volume of cars and large trucks with the desire to improve safety and maintain a pedestrian-friendly downtown.

With plan in hand, city officials began exploring options to fund the vision. The city submitted an application and was subsequently awarded a \$3.5 million first round Transportation Investment Generating Economic Recovery (TIGER I) grant for the U.S. Highway 93 2nd Street Improvement Project. The goals of the project were to:

- Construct a well-defined street that uses consistent elements and links the downtown with nearby residential areas.



- Modernize outdated traffic signals and add dedicated left turn lanes at three key intersections to improve safety and reduce congestion, fuel consumption, and greenhouse gas emissions.
- Limit the width of U.S. Highway 93 to two lanes.
- Replace failing water, sewer, and storm drainage utilities on U.S. Highway 93.
- Encourage people to walk and shop throughout the downtown business district through the provision of:
 - Sidewalk, intersection, and arcade improvements, including raised intersections and paving patterns with scored sidewalks and crosswalks for easier delineation and awareness of crossing areas
 - Landscaped curb extensions
 - Improved lighting
 - Pedestrian signals and pushbuttons
 - Americans with Disabilities Act (ADA) compliant ramps
 - Shopper-friendly parking within the retail core area

The U.S. Highway 93 2nd Street Improvement Project was completed in June of 2012. It represents a proactive, innovative approach to solving transportation issues through environmentally sustainable measures. The project will improve traffic flow on U.S. Highway 93 without compromising the livability of downtown Whitefish. It will contribute to the overall vision of the Whitefish Downtown Business District Master Plan by improving downtown circulation, safety, air quality, and the north-south connectivity of the retail core – all of which will improve the quality of life and make Whitefish a more walkable and livable community.

Mid-Atlantic Region of the Interagency Partnership for Sustainable Communities Collaborates with the U.S. Department of Agriculture

Eric Rothermel, Environmental Intern
FHWA – Pennsylvania Division

The HUD/DOT/EPA Interagency Partnership for Sustainable Communities (PSC) is coordinating with the USDA to ensure that livability principles are supported and implemented in rural communities. Staff from HUD, DOT, EPA, and USDA formed a Rural Work Group to ensure that the four agencies’ spending, policies, and programs support rural communities’ efforts to be economically vibrant and environmentally sustainable. The Work Group’s efforts led to the development of a report, *Supporting Sustainable Rural Communities*, which summarizes findings and creates a framework for the Partnership’s future work with rural communities. The report is located on the PSC website: http://www.sustainablecommunities.gov/pdf/Supporting_Sustainable_Rural_Communities_FINAL.PDF.

The Mid-Atlantic Interagency Partnership for Sustainable Communities has proactively coordinated with USDA in Pennsylvania, Delaware, Maryland, and West Virginia to extend the efforts of the Partnership into rural sections of the six State Mid-Atlantic region. Their coordination efforts have included the following:

- The USDA Pennsylvania State Director was contacted to explore opportunities for coordination and to learn more about the USDA Rural Development Program. As a result of the discussion, the Lehigh Valley Region was identified



as a place with great potential for coordination. Local representatives from Lehigh Valley were also contacted to discuss how to leverage funds to redevelop brownfield sites in the Lehigh Valley.

- On June 6-7, 2012 representatives of the Region 3 Partnership, including USDA, participated in a walking tour and workshop in Marietta, PA as part of the EPA [Building Blocks for Sustainable Communities](#) Program. The workshop also included multiple stakeholders from local government and the non-profit sector. The goal was to select smart growth strategies and identify relevant changes to the zoning ordinance.
- A meeting was held with the USDA's Rural Development Coordinator in West Virginia to identify opportunities for collaboration. As a result of the meeting, several projects were identified, including the Hardwood Alliance Zone - Corridor H and the New River Gorge Regional Development Authority.
- A meeting was also held with the USDA's State Director in Delaware. As a result, FHWA and USDA will likely combine efforts in support of the Sussex County Airport Improvements Project in rural southern Delaware.

The Mid-Atlantic region of the Partnership is making strides in working with USDA to strengthen support for rural communities by coordinating and aligning programs. What is your region doing to support rural communities? Has your region discussed with the USDA how they can better coordinate investments and implement policies in rural America? Consider contacting your State's USDA Director to identify how the regional Partnership can work to better coordinate investments and implement policies in rural communities within your State. For more information on the USDA's Rural Development Program, visit: <http://www.rurdev.usda.gov/Home.html>.

Proven Countermeasures to Improve Rural Road Safety

Cathy Satterfield, Safety Engineer
FHWA – Office of Safety

Improving road safety is a top priority for the U.S. Department of Transportation, and FHWA remains committed to reducing highway fatalities and serious injuries on our Nation's highways. In January 2012, FHWA issued an updated guidance memorandum on research-proven safety countermeasures, many of which are low-cost solutions. FHWA encourages its partners to consider implementing these countermeasures broadly, as appropriate, to reap the full benefits of solutions that are known to save lives. The revised proven countermeasures are described in detail at the FHWA Office of Safety's new [Proven Safety Countermeasures website](#). This article briefly describes some of those countermeasures that are particularly relevant to rural applications.

While many countermeasures are effective for both urban and rural highways, the overall safety issues often differ. In many respects, the rural safety problem is more difficult. Crashes are over-represented on the rural system, as 55 percent of fatal crashes (and fatalities) occur on rural highways while only 33 percent of vehicle miles traveled occur on this system. Applying countermeasures to the rural system requires addressing large areas, because 73 percent of highway miles are classified as rural.

Enhanced Delineation and Friction on Curves

Recent data analysis shows that 28 percent of all fatal crashes occur on [horizontal curves](#). Furthermore, about three times as many crashes occur on curves as occur on tangential sections of roadways. Recent research on signing and marking practices has shown that simple measures to warn drivers can greatly improve safety at relatively low cost. Another



solution is to increase the friction of roadway surfaces to prevent skidding; this provides a low-cost solution that does not aggravate the problem by increasing speeds as many other solutions do.

FHWA encourages State and local agencies to consider the issue of horizontal curves at a system level, as individual curves or groups of curves function within the geometry of the overall roadway. Providing a consistent message to the road user through signing and markings is an important goal of the new standards in the [2009 Manual of Uniform Traffic Control Devices \(MUTCD\)](#). Agencies should also work to develop a process for identifying and treating problem

curves that accounts for the full range of available treatments, and uses the appropriate application for the identified problem(s).

The Safety Edge_{SM}

The [Safety Edge_{SM}](#) is one of the innovative technologies being deployed as part of FHWA's [Every Day Counts](#) initiative. The Safety Edge_{SM} is a proven paving technique that creates a durable 30-degree angle at the edge of a paved way, creating a gentle slope that facilitates safe vehicle re-entry should a driver drift from the pavement. It has been successfully constructed on both asphalt and concrete pavements, and eliminates the potential for tire scrubbing, which often leads to loss of control and severe crashes.

While the Safety Edge_{SM} was designed for passenger vehicles, it also provides a safer design for motorcycles, bicycles, and trucks – all types of vehicles that may get too close to the edge. Another benefit is the improved pavement durability, which FHWA is still in the process of quantifying. The technique is applicable to any paving project that doesn't have a curb and gutter, but agencies can expect to see the greatest benefits on narrow, high-speed roads which are typical in rural areas. Because of the low cost of the Safety Edge_{SM}, the benefit-cost ratio on two-lane roads is very high, ranging from 4 to 63.

Longitudinal Rumble Strips (or Stripes) on Two-Lane Roads

Two-lane roads comprise the majority of the rural system, and roadway departures, which account for over half of all traffic fatalities, are more prominent in rural areas than other crash types. The use of milled rumble strips to alert a driver that has drifted across the center line or edge line has been proven to reduce head-on crashes by 44 percent and run-off road



Figure 3: Chevrons, delineators, and pavement markings warn drivers of an impending curve on a rural roadway.



Figure 4: The angle of a Safety Edge_{SM} can be measured before or after shoulder grading is complete.





Figure 5: Rumble strips warn inattentive drivers if their vehicle leaves the travel lane.

provides suggestions for mitigating adverse effects such as noise and potential pavement issues. FHWA plans to work closely with stakeholder groups to further define these issues and generate case studies and best practices.

Intersection and Pedestrian Countermeasures

Intersection crashes in rural areas are particularly severe due to high speeds. The revised set of countermeasures includes a number of recommendations regarding intersections, some of which apply to rural areas. For instance, modern [roundabouts](#) create a safer, lower-speed environment. At the same time, fewer vehicles come to a complete stop, thereby reducing emissions. A rural roundabout is typically designed for a slightly higher speed than an urban type, but still uses channelization at the entrance and deflection around a center island to eliminate angle crashes. In rural locations, it is often easier to acquire the necessary right-of-way to design and build a roundabout.

Another intersection countermeasure that has both rural and urban application is the addition of a [retroreflective⁵ border on traffic signal backplates](#). This makes traffic signals more conspicuous, which is often very important in rural areas where a driver may not be expecting a signalized intersection. Backplates have long been known to provide valuable contrast for the signal head. This very low-cost measure goes one step further by using strips of retroreflective sheeting as a border on those backplates to draw the attention of the driver.

⁵ A retroreflector is a device or surface that reflects light back to its source with a minimum scattering of light.

crashes by 36 percent on rural two-lane roads. Where agencies place the pavement markings over the rumble, it improves visibility of the stripe, further increasing the safety and operational benefits. Furthermore, since rumble stripes are considered pavement markings, they may be eligible for 100 percent Federal funding.

While the countermeasures guidance provides some broad recommendations, FHWA has also developed a [technical advisory](#) for each of the two types of rumble strips that provides agencies with detailed information to assist them in making appropriate design and construction decisions. For instance, the technical advisory on shoulder rumble strips includes suggestions for widening shoulders, providing bicycle gaps, adjusting the location of the rumble strip in relation to the lane, and adjusting the dimensions. It also



Figure 6: A yellow retroreflective border on a signal backplate.



While the other proven countermeasures are primarily for use in urban and suburban areas, there may still be opportunities to implement them in rural contexts. For example, at the transition area where a highway leads into a small urbanized area (e.g. a rural town), treatments such as “road diets”⁶ and roundabouts can be very effective at creating a safer and slower corridor that provides a better environment for pedestrians and bicyclists while still accommodating traffic. In rural areas, paired offset T-intersections can be safer than a single four-legged intersection, and along some rural highways, median U-turns to accommodate through and/or left turn movement can provide an appropriate balance between access and safety. Implementation of these countermeasures as a rural area is under development may reduce the congestion and crashes that often accompany new development.

Improving Safety Using Proven Countermeasures

According to Transportation Secretary LaHood’s [2011 Policy Statement on Safety](#), “In carrying out our transportation mission, safety is our highest priority.” Every life is precious, and we must strive to ensure the safety of every user of our transportation systems, as well as all who are affected by those systems. Injuries and loss of life are unacceptable in the efficient and effective transportation of goods and people, and we must take every practical action to prevent those tragedies from happening.” Applying these proven countermeasures appropriately across our Nation is sure to help achieve this goal.

New Resources

The FHWA Livability Team developed videos that discuss the six livability principles of the Partnership for Sustainable Communities. Please visit the FHWA Livability website to access these and other resources: www.fhwa.dot.gov/livability.

To learn about current grant opportunities for livable communities, please visit the PSC website at: www.sustainablecommunities.gov.

⁶ A “road diet” is a reduction in the number of travel lanes. Typical goals of a “road diet” may include traffic calming or increased infrastructure for pedestrians and bicyclists.

