

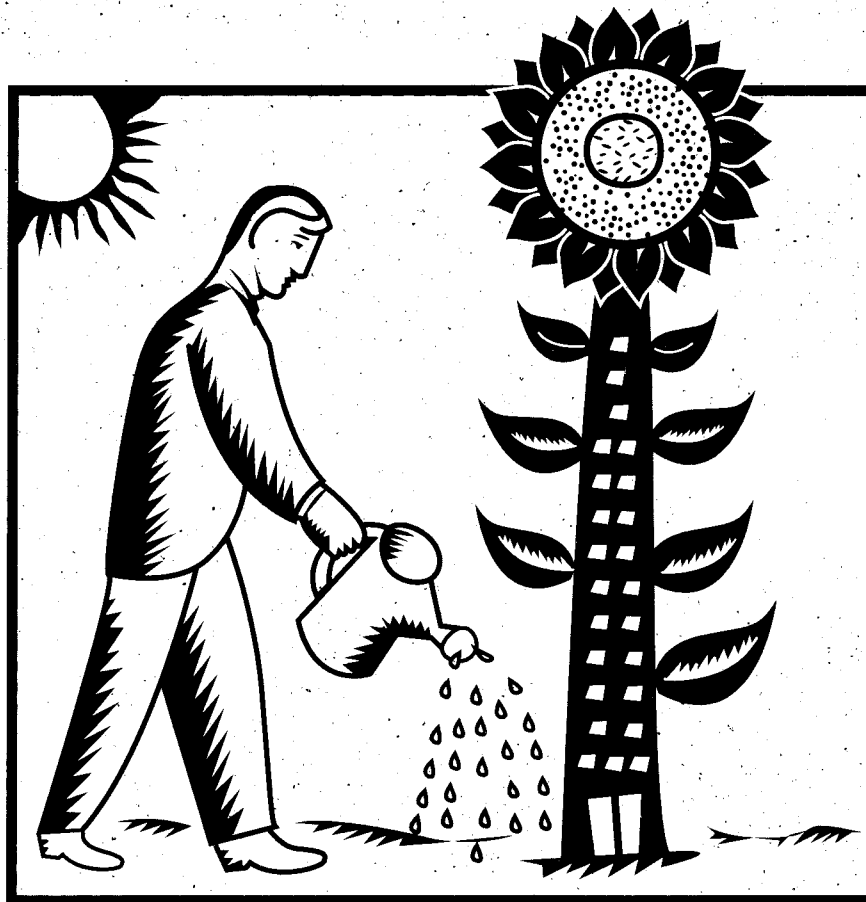
brownfield redevelopment and
TRANSPORTATION POLICY

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A PUBLICATION OF THE

NORTHEAST-MIDWEST

INSTITUTE

brownfield redevelopment and TRANSPORTATION POLICY

Metropolitan transportation systems have a significant influence on the urban built environment because mobility is an essential element of a dynamic economy. Many observers note that characteristics of our auto-dominated transportation system contribute to the problem of suburban development outstripping urban redevelopment, which has happened to such an extent that many cities have lost population in recent decades, and vacant or underutilized land often is available in the center of rapidly expanding metropolitan areas. However, many challenges, including the cost of cleaning up contaminated property, burden redevelopment.

Transportation infrastructure is a critical element of any development. Significant transportation investments have been needed to support growth of our suburbs, and similarly, excellent transportation services are required for revitalization of the urban core. Transportation policies and projects are key to the development of brownfields for several reasons:

- Transportation infrastructure provides access to the brownfield site for jobs and commercial activity;
- Brownfields are often also good locations for transportation infrastructure; and
- The infusion of public funds for transportation projects can provide an impetus for nearby development.

The last decade has seen significant changes in metropolitan transportation planning that could improve the potential for development in the urban core. As new approaches to brownfield reuse have evolved, the relationship between provision of transportation services and recycling of urban land is being more carefully explored.

The authors would like to acknowledge the contributions of Susan Borinsky and Howard Selig at the Federal Transit Administration, Fred Bank at the Federal Highway Administration, Linda Lawson in the Office of the Secretary of Transportation, and Sven-Erik Kaiser in the Environmental Protection Agency's Brownfields Program. Of course, any errors or oversights in the paper remain the responsibility of the authors.

INTRODUCTION

Cities are shaped over long periods of time by many forces, including population growth rates, the nature and infrastructure needs of the economy, land costs, trends in land use regulation, and transportation systems. This paper examines the role of transportation in shaping American metropolitan areas, with a focus on how transportation policies can help recycle often contaminated land and buildings — brownfields.

Since mobility is an essential element of a dynamic economy, metropolitan transportation systems have a significant influence on urban spatial structure. Many older cities, for instance, developed around water bodies because rivers and lakes at one time provided the primary transportation infrastructure to conduct commerce. As metropolitan populations expanded around the turn of the century, development often followed trolley lines to "streetcar suburbs." When population and economic growth exploded in the post-World War II years, states and the federal government made significant new investments in transportation infrastructure. The nature of post-war transportation investments in the 1950s and 1960s — primarily highway construction, combined with dramatic advances in the affordability and availability of automobiles — created extensive development opportunities, served by auto-dominated trans-

portation systems, which pushed the edges of metropolitan areas dramatically outward.

Suburban development in recent decades has outstripped urban redevelopment, to such an extent

that most cities have lost population and vacant or underutilized land has become available for redevelopment in the center of rapidly expanding metropolitan areas. Many challenges, including the cost of cleaning up contaminated property, burden redevelopment. However, a resurgence of interest in revitalizing central cities and older, "inner ring" suburbs has prompted new approaches to recycling urban land.

Transportation policies and projects are key to the redevelopment of brownfields. They help determine if an area is accessible for workers and commercial activity. Brownfields can be excellent candidates for the siting of transportation projects, and the infusion of public funds for transportation projects can provide an impetus for nearby development.

Recent changes in metropolitan transportation planning could greatly improve the urban core's development potential. The time is right to explore the potential syn-

ergies of transportation investments, the revitalization of existing neighborhoods, and the redevelopment of brownfields.

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URBAN REVITALIZATION: WHERE BROWNFIELDS AND TRANSPORTATION INTERSECT

The U.S. General Accounting Office, U.S. Conference of Mayors, and National Association of Governors estimate that brownfields number close to 450,000 nationwide. Although there is no specific legal definition of a "brownfield," the term refers to a broad range of contaminated sites. (The smaller

universe of Superfund sites — those seriously contaminated properties subject to Environmental Protection Agency (EPA) oversight — generally are not included in brownfield programs.)

Many of today's brownfields were the site of industrial facilities and are in extremely valuable locations for both urban redevelopment and transportation projects. They often are near natural transportation hubs and facilities, such as ports and railroad rights-of-way.

During the 1990s, there has been a new focus at all levels of government and in the private sector on using potentially valuable brownfield sites. Philadelphia, Cleveland, Detroit, Chicago, and many other cities have made brownfield reuse a top priority and have tried to ease the obstacles to redevelopment. Forty-six states have created voluntary cleanup programs to encourage the cleanup and reuse of brownfield sites. Moreover, the federal government has provided funding and strategic administrative reforms that reduce liability and cost barriers to redevelopment projects.

Interest in recycling urban land and buildings has coincided with growing national awareness of how low-density sprawl development affects livability and quality of life, and of the role federal and state transportation, housing, tax, and other policies play in promoting unplanned development. Concerned about the land-use, traffic congestion, en-

The Clinton Administration's Brownfield Initiative

The Brownfields Economic Redevelopment Initiative, spearheaded by the Environmental Protection Agency (EPA), is designed to create joint efforts by states, communities, and other economic development interests to assess, clean, and reuse brownfields. EPA since 1995 has awarded grants of up to \$200,000 each for assessment and demonstration work at more than 200 Brownfields Assessment Demonstration Pilots.

Aimed at eliminating barriers to brownfield cleanup, the Clinton Administration's Brownfields Action Agenda seeks to clarify liability for prospective purchasers and lenders, tailor cleanup standards to future land uses, employ expedited remediation and closure processes, support innovative brownfield cleanup technologies, encourage community involvement in redevelopment, and explore opportunities for job training and creation.

In April 1997, the Federal Interagency Working Group on Brownfields announced that federal agencies would "integrate brownfields into their planning processes, ensuring that brownfields cleanup and redevelopment are eligible expenses for their project funds. They are removing internal barriers and encouraging their field offices to work with communities on brownfields projects." A month later, Vice President Al Gore launched the Brownfields National Partnership to bring to bear the planning, spending, and technical assistance capabilities of 15 federal agencies on local brownfield efforts. The Department of Transportation (DOT) was seen as a critical and influential member of that partnership.

Subsequently, the federal agencies designated 16 Brownfields Showcase Communities as models to demonstrate the benefits of collaborative, focused, and coordinated activity. As part of its involvement with the partnership, DOT has created a Headquarters Working Group and designated liaisons with the Office of the Secretary, Federal Highway Administration, Federal Transit Administration, Federal Railroad Administration, or the Maritime Administration for each of the showcase communities.

ergy, and environmental impacts of sprawl, many metropolitan areas are attempting to promote more balanced development.

LAND USE AND TRANSPORTATION

Metropolitan transportation planners are paying more attention to the relationship between land use and transportation and to how transportation investments can support urban revitalization, including brownfield redevelopment. Recent changes to federal transportation law — with enactment of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) — placed greater emphasis on understanding the land use impacts of transportation projects. *(Readers interested in more in-depth history of the evolution of U.S. transportation policy are invited to consult this publication's appendix.)*

At the federal policy level, the Department of Transportation (DOT) since 1997 has participated in the Federal Interagency Working Group on Brownfields and the Showcase Communities project (see sidebar on the Clinton Administration's Brownfields Initiative) in order to examine ways in which transportation programs can reduce barriers to redevelopment. The relationship between brownfield reuse and transportation policies falls into three primary categories:

- Brownfields used as transportation facilities;
- Brownfields that need transportation improvements; and
- Policies, including spending priorities, that support urban revitalization.

BROWNFIELDS USED AS TRANSPORTATION FACILITIES

Because of the extensive liability, costs, and time delays associated with site cleanup, the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA), until recently, directed their grant recipients to avoid contact with contaminated properties. The FHWA in 1988 issued interim guidance to respond to "increasing problems" in dealing with such sites, stating: "**Contaminated sites should be avoided if at all possible.** When they cannot be avoided, every effort should be made to identify other responsible parties to bear the costs of cleanup or disposal." (FHWA emphasis.)

Highlights of DOT's Earth Day Policy Directive on Brownfields

The Department of Transportation, according to Secretary Slater in 1998, encourages state and local transportation agencies to address community brownfield redevelopment in transportation planning. DOT hopes these agencies ensure that planning considers: access to planned brownfield redevelopment; the use of brownfield properties for transportation-related development; and new partnerships with state and local environmental and economic development entities in order to attract additional resources and leverage transportation funds.

States, localities, and transit agencies are provided the flexibility to participate, where appropriate, in transportation projects that include the reuse of brownfield sites. This approach changes DOT's long-standing policy that called for avoiding contaminated sites. It provides resources for brownfield sites that meet all other appropriate criteria and are consistent with a specific transportation project. Such federal and state policy changes have reduced liability concerns and stringent cleanup requirements that long discouraged reuse of these properties.

FHWA noted that the keys to dealing with potentially contaminated property are early identification and assessment; early coordination with federal, state, and local officials; and measures to avoid or minimize involvement with the property or to cause cleanup by responsible parties. FHWA immediately followed the list of necessary actions by stating, "Again, avoidance is stressed as the preferred option unless the risks of proceeding with contaminated property can be justified." Although the guidance was never finalized and remained "interim," it guided FHWA decisions for ten years.

In 1998, one year after joining the Brownfields National Partnership, Secretary of Transportation Rodney Slater established a new DOT policy that supports brownfield redevelopment. Secretary Slater, in an April 22 Earth Day speech at a brownfield site in Lowell, Massachusetts, admitted the 1988 directive to avoid contaminated sites was out of step with DOT's commitment to support development of livable communities.

Building Transportation Facilities on Contaminated Land

NORTH MARINE DRIVE — PORTLAND, OREGON

Portland officials have undertaken a major revitalization plan for the city's industrial areas, using road and transit improvements as incentives for environmental cleanup and economic development. As a long-time industrial, commercial, and shipping center, Portland contains a high concentration of brownfields. Officials have identified 484 contaminated properties and more than 600 additional sites with suspected contamination.

The North Marine Drive project was an early model for blending environmental, economic-development, and transportation policy. The project involved improving, and then relocating, an outdated road through contaminated land that provided access from Interstate 5 to the 2,800-acre Rivergate Industrial District. Local officials, with backing from the community, were able to put together a process that allowed federal funds to be used for a road on contaminated land despite FHWA's policy requiring the avoidance of such polluted sites. Local sentiment strongly favored road widening and relocation on contaminated land, instead of using nearby wetlands or not building the road.

FHWA provided \$14.6 million for the total \$25-million project to replace the 2.2-mile, two-lane road with a four to five lane highway. FHWA officials worked with the Oregon Department of Transportation, the Port of Portland, the City of Portland, and local business and property owners to develop a plan that would be environmentally acceptable. FHWA required that the Oregon Department of Environmental Quality (ODEQ) approve the city's proposal for the portion of the road that would be built on contaminated land. The city developed a strategy to obtain ODEQ's approval and satisfy FHWA by showing that the project would not worsen existing contamination and that it would not affect significantly the state's ability to proceed with cleanup once the road was built.

The crucial issues were demonstrating that capping soil contaminants beneath the roadway would protect human health and the environment, and evaluating whether the weight of clean fill would cause contaminated groundwater to migrate further into the groundwater and into the nearby Columbia River. Studies determined that a properly engineered road would form a cap on the pollutants by preventing precipitation from penetrating the ground. Design changes were made to meet ODEQ's concerns.

The construction of North Marine Drive was successful because of support from a coalition of government agencies, businesses, and residents united in wanting to improve the transportation connections to a major industrial area while protecting the environment. Project approval produced an immediate jump in private investment. Land leases and sales more than doubled, and land values increased by 63 percent. City officials estimate that the improvements to North Marine Drive could produce as many as 9,000 new jobs in the Rivergate area.

The DOT policy change has resulted in a more sympathetic approach to the problems of contamination and urban development. State or local agencies using federal transportation funds still are required to take the necessary steps to identify the responsible party and obtain reimbursement, but the goal now is to manage the problem of contamination, rather than to avoid it.

In its *Grant Management Guidelines*, issued in October 1998, FTA told grantees doing assessments under the National Environmental Policy Act (NEPA) to consider the impact of contamination on their projects: "During the NEPA process, the grant applicant will have considered not only the estimated cost of appropriate remediation (remediation being any ac-

tion, developed in consultation with appropriate regulatory agencies, to reduce, remove, or contain contamination), the applicant will also have considered and taken action regarding the short- and long-term liabilities associated with brownfields." FTA advised grantees to settle the contamination issue before undertaking the project: "To encourage the complete assessment of contamination prior to project decision-making, FTA generally will not participate in the remediation of unanticipated contamination discovered during construction."

Transportation funds, however, may be used for remediation that is part of the transportation project. For example, cleanup costs necessary for a project's completion, such as removing hazardous waste in a right-

of-way, may be covered by federal dollars. Transportation funds may not be tapped for cleanup activities that are not part of the transportation project itself.

BROWNFIELDS THAT NEED TRANSPORTATION IMPROVEMENTS

Transportation infrastructure connects us to our community as well as to the local, national, and global economies. It is a key ingredient in making a piece of property useful for industrial or commercial ventures. Conversely, inadequate access can prevent such economically important uses.

Brownfield sites can have a locational advantage over competing properties on the metropolitan fringe because they often are relatively well served by transportation infrastructure. Necessary improvements can be limited to new turning lanes, pavement repairs, signal changes at adjacent major intersections, parking improvements, and transit access. Such changes can stand in sharp contrast to the expensive transportation upgrades needed to connect a new industrial park in the suburbs to an Interstate highway.

DOT's new policy encourages state and local transportation agencies to address community brownfield redevelopment in transportation planning. This action allows metropolitan planning organizations (MPOs) and state officials to assess the transportation needs of redevelopment projects without avoiding contaminated sites. All transportation projects must clear the same planning hurdles:

- Inclusion on the MPO's long-range, 20-year transportation plan. This plan must identify potential public and private funding sources.

- Inclusion on the MPO's three-year transportation improvement program (TIP). Projects on the TIP must be consistent with the long-range plan and may be included "only if full funding can reasonably be anticipated to be available for the project

Community Driven Transportation Planning

WOONASQUATUCKET RIVER GREENWAY —

PROVIDENCE, RHODE ISLAND

In Providence, city and state officials are working with a private organization, The Providence Plan, to develop a linear park along the Woonasquattucket River. The project incorporates cleanup of two contaminated sites, and will help attract investment for redevelopment of those properties and the surrounding area. The linear park project will include recreational areas and a bicycle path.

The community proposed the plan for the transportation-related bikeway because almost half the population in the economically-depressed neighborhoods along the river lacks access to an automobile. The proposed 5.7-mile bikeway being planned by the city and the State Department of Transportation will connect area residents to the new developments and the recreational facilities, with a likely connection to the bus stops.

A \$200,000 Brownfields Assessment Pilot grant and state matching funds were used to identify and assess two abandoned textile mill sites in the greenway area. The six-acre Riverside Mills site, which was an illegal hazardous waste dump that still contains underground oil storage tanks, is planned for use as a 5,000 square-foot office building and a commercial or light industrial development. A portion of the property lying in a flood plain may be restored as a wetland or greenspace. Development of a city park and a large public housing project is planned for the nine-acre Lincoln Lace & Braid site. The city estimates that redevelopment of the two sites will create 20 to 100 new jobs.

The greenway project is a collaboration of The Providence Plan, the City of Providence, the Rhode Island Department of Environmental Management, the Rhode Island Department of Transportation, and the U.S. Environmental Protection Agency. In addition to the Brownfield Assessment Pilot grant, a total of \$3.9 million has been designated for the bikeway through the Rhode Island TIP. The state has committed an additional \$1.3 million, while the city has added \$3 million from a bond issue for parks and other improvements. The State Department of Environmental Management has allocated \$300,000 for the cleanup of the oil-saturated soil.

The Woonasquattucket River Greenway project blends economic development, environmental cleanup, recreational, and transportation goals on a site adjacent to an American Heritage River. In a major departure from traditional transportation planning, the project includes a community-backed alternative facility — a bikeway — as a means of providing access to jobs.

Getting Brownfield Projects into the Funding Pipeline

PHALEN CORRIDOR INITIATIVE — ST. PAUL, MINNESOTA

In St. Paul, a planned 2.5-mile road along abandoned rail tracks is the backbone of a major redevelopment of 100 acres of contaminated industrial and disposal sites. In what should be a major boost for the city's east side, the Phalen Corridor Initiative, which calls for at least ten light industrial sites along the new road, is projected to create more than 2,000 jobs and help retain 4,000 additional jobs. This area lost 2,500 jobs in the past two decades, including the closing of a Whirlpool plant and a Stroh's brewery. Project director Curt Milburn says the biggest challenge is providing the infrastructure for the corridor.

Phalen Boulevard, the central element of the Phalen Corridor Initiative, is estimated to cost \$48 million. It will link a wetland being created at the corridor's east end, ten industrial parks on the site of an abandoned shopping center, a new Williams Hill Industrial Park, and Interstate 35E on the west.

Progress on sections of the corridor is already evident. The rubble dump that will be the site of the new five-company Williams Hill Industrial Park is being removed, the vacant sections of the Phalen Village Shopping Center have been demolished and will be replaced by a wetland, and three companies have signed letters of commitment that will result in 300 new and retained jobs.

The Phalen Corridor Initiative is supported by a coalition of 60 businesses, neighborhood organizations, and community development agencies. The project's planners say they could not attract private investment in the corridor without plans for the boulevard, and they continue to seek funding to complete the project. The City of St. Paul sought \$38 million in TEA-21 funds for the Phalen Boulevard construction, but it was provided only \$12.2 million. The Minnesota Department of Transportation has set aside \$30 million for a connection with I-35E. In addition, the 3M Corporation, which has a manufacturing facility on the corridor, provided \$100,000 for an environmental impact statement. The Metropolitan Council, the local MPO, obtained a State Livable Communities grant for two bikeways along the corridor.

Not until they were well into the project did the planners become aware of FHWA's previous policy to avoid contaminated sites. FHWA officials cautioned the project's planners about the potential cost of road construction in a contaminated area, and the planners may have been forced to forego federal funds in order to proceed. With the new DOT policy, however, FHWA officials are reviewing the plans, and federal funds may be added to the mix obtained from state, city, private sources, as well as agencies such as the St. Paul Port Authority. The project is slated for completion in 2002.

within the time period contemplated for completion of the project."

- Placement on the MPO's priority list for annual funding. In urbanized areas with populations in excess of 200,000, the placement is a state transportation agency responsibility, in cooperation with the MPO. In smaller urbanized areas, the state agency is responsible for highway projects, and the designated transit funding recipient has the responsibility for transit projects, both in cooperation with the MPO. In all cases, project selection must be in conformance with the TIP.

DOT's policy revisions have started to level the playing field for brownfield sites competing for scarce transportation dollars. Yet transportation pri-

orities should be set at the metropolitan level by local elected officials in order to improve transportation service to brownfield sites or areas. While there is a well-defined and orderly process for considering projects at the regional level, final decisions on the MPO's annual recommendations can be political. Brownfield projects, therefore, need strong advocates at the regional level if the transportation infrastructure servicing them requires some investment.

While MPOs in theory can amend a TIP at any time, TEA-21 requires that projects not be included in annual plans unless funding has been identified. As a result, states and MPOs usually have committed funds for years into the future, often putting new brownfield projects at a disadvantage. Representatives of the 16 brownfields showcase communi-

ties at an October 1998 meeting complained that DOT policies effectively had locked important brownfield projects out of the transportation planning process. While DOT has not created a new category of funding for brownfield-related projects, the agency is clearly aware of the brownfield challenge facing some metropolitan transportation planners.

POLICIES THAT SUPPORT URBAN REVITALIZATION

Federal officials have expanded their view of transportation infrastructure since the passage of ISTEA in 1991, and many state and local officials have followed DOT's lead. Transportation, once viewed as simply a means of moving people and vehicles from point A to point B, now is seen as a means to promote economic development, environmental protection, and other values. Secretary Slater has said repeatedly, "Transportation is more than concrete, steel, and asphalt."

In addition to changing its policy of avoiding contaminated land, DOT has focused on how to proactively support urban revitalization. The following FTA activities are particularly relevant.

• *Joint Development of Transit Assets*

A March 1997 policy stated, "FTA encourages transit systems to undertake joint development projects [with the private sector] at and around transit stations, bus terminals, intermodal facilities, and other transit properties, where such projects are physically or functionally related to the provision of transit service, and where they increase transit revenues through proceeds from joint development." FTA said it would provide grants for eligible transit-related elements of surrounding development projects. Joint development of transit assets is intended to integrate transit systems and their surrounding development for the benefit of both. Although the policy is not aimed at brownfield reuse, linkages are possible.

TEA-21 contains another important policy innovation relevant to joint development — allowing transit operators to retain the profits from a property sale. Transit agencies now can sell or transfer land for tran-

sit-oriented development and retain the resulting one-time payment or stream of income. Under the previous policy of requiring profits from land transactions to revert back to the U. S. Treasury, transit agencies had little incentive to pursue joint development.

These two related policy innovations create an incentive for transit agencies to encourage transit-oriented development around stations. Because rail rights-of-way and surrounding areas often are contaminated as a result of historic rail uses, active development around transit stations can increase demand for reuse of brownfields.

• *The Livable Communities Initiative*

FTA in 1995 launched the Livable Communities Initiative to award grants to communities for "siting social and community services at or near transit stations, to create activity centers that would naturally attract passengers into

the transit system." By 1998, FTA had distributed \$51 million to 21 transit agencies. While funds for demonstration grants are no longer available, FTA's Livable Communities concept has been embraced and implemented by numerous transit agencies throughout the nation.

The Livable Communities Initiative is closely associated with the Clinton Administration's Sustainable Communities program initiated in 1996 which "seeks to foster a community that emphasizes human scale and high standard of living for the present, while preserving the ability of future generations to enjoy the same standard of living." At an April 1998 forum on Sustainable Communities, FTA Administrator Gordon J. Linton said:

"The Initiative is, in part, a result of evolving national trends . . . the suburbanization of jobs, the associated decline in the economic and social vital-

"Joint development of transit assets is intended to integrate transit systems and their surrounding development for the benefit of both. Although the policy is not aimed at brownfield reuse, linkages are possible."

Transit Investments Spark Local Economy

WELLSTON STATION — WELLSTON, MISSOURI

The Wellston Station Development in St. Louis County is a clear instance of a transportation improvement providing the impetus for environmental cleanup and brownfield redevelopment. The first piece of the development puzzle was the 1993 opening of a Metrolink station at Wellston. Over the previous 50 years, the city of Wellston had lost 60 percent of its population, most of its industry had moved to the suburbs, and its retail district had disappeared.

When the station opened, there was very little development on nearby and adjacent parcels previously occupied by Wagner Electric Company and contaminated to varying degrees. Today, with funding from FTA, the Economic Development Administration, EPA's Brownfields Pilot program, St. Louis County, the State of Missouri, and private sources, the St. Louis County Economic Council and the City of Wellston are implementing a ten-year plan to create the Wellston Technology Park on a 100-acre site adjacent to the station.

The redevelopment project's initial part was the transformation of one of the buildings donated to St. Louis County by Wagner Electric Co. into a 120,000-square-foot educational and training center called the Cornerstone Project. In 1995, an Urban Land Institute panel proposed redeveloping the area around the Metrolink station and the Cornerstone Project in order to create a much larger technology park that would include 825,000 square feet of industrial space, 20,000 square feet of retail space, and development of about 50 homes. The park originally was planned for 75 acres, but was later expanded to 100 acres.

Four companies — Moog Automotive, General Electric, Interglobal (a specialty lighting manufacturer) and ViJon (a health and beauty care manufacturer) — serve as the park's anchors. ViJon constructed a new gate to ease walking access from its facility to the Metrolink station. Using the \$200,000 from the Brownfields Pilot Project and a state grant, assessments and sub-surface investigations are being undertaken with the goal of cleaning up the site's contaminated portions for light industry. The Economic Council is developing a strategy to attract additional manufacturing facilities to the industrial park.

An FTA Livable Communities grant is being used to upgrade the area surrounding the Metrolink station with new and improved walkways, waiting areas, public art, and landscaping. FTA funds also will assist in funding a new child care facility (on a clean site). In addition to the FTA resources, the project received \$4 million in STP funds for major street reconstruction in order to improve access to the site. The funds were used primarily to widen the Page Avenue Viaduct near the Technology Park.

To attract private investment, local officials also are using a variety of innovative financing techniques, including creation of a 501(c)(3) corporation to provide investors with federal charitable contribution credits and a 50-percent state tax credit. Tax increment bonds will be used for infrastructure improvements such as industrial road improvements, better drainage, and pedestrian links.

The Wellston Technology Park demonstrates the power of transportation improvements to create opportunities for redevelopment and reuse of contaminated sites. In this instance, the opening of the Metrolink station led to development plans that required environmental cleanup.

ity of the inner cities, and the accompanying problems associated with sprawl.

[The initiative is] a way to demonstrate that through combining transportation and community planning, stimulating increased participation by nontraditional stakeholders in the decision making process, increasing access to employment and education facilities and other community destinations, and leveraging resources available through other federal, state, and local programs, we can work together to create healthy communities."

- **Transit New Starts Criterion: Transit Supportive Land Use**

ISTEA and TEA-21 require that any new "fixed guideway" project (a generic term for rail or dedicated busways) or extension of an existing project be justified on the basis of certain criteria. One such measure is whether transit-supportive land use is in place and reflected in the project's plans and policies. Local planners and transit agencies may elect to coordinate proposed projects with brownfield redevelopment, and the program's reporting procedures identify "brownfields redevelopment" as relevant information. FTA factors in many considerations, including project linkages with the surrounding community and local economy, when making recommendations to Congress for funding.

- **Transportation and Community and System Preservation Pilot Program**

TEA-21 created the Transportation and Community and System Preservation Pilot program (TCSP). Administered by FHWA, it supports sustainability initiatives that will balance the needs of transportation access with the promotion of economic development and environmental protection.

TEA-21 directs the DOT secretary to allocate funds for projects that improve the transportation system's efficiency; reduce the impacts of transportation on the environment; reduce the need for costly future investments in public infrastructure; provide efficient access to jobs, services, and centers of trade; and identify strategies to encourage private-sector development patterns that achieve the program's goals. In order to advance sustainable development, TCSP projects are expected to address in an integrated manner all of the elements cited in the legislation.

TEA-21 authorized \$20 million in fiscal 1999 and \$25 million annually for the next four years for states, MPOs, and local governments to "plan, develop, and implement strategies to integrate transportation and community and system preservation plans and practices." This integrated approach offers opportunities for communities to link transportation planning, implementation, and research to brownfield redevelopment. The Federal Highway Administration is administering TCSP with support from a working group that includes other DOT agencies (FTA, Federal Railroad Administration, Research and Special Programs, and the Office of the Secretary) and the Environmental Protection Agency.

Although TCSP does not mention brownfields, funding criteria appear to favor urban transportation projects that include brownfield redevelopment. Reducing transportation impacts on the environment, investing in existing infrastructure, and providing access to commercial areas are critical elements for many brownfield projects.

DOT hopes to fund innovative projects through the TCSP program. Demonstrating this new approach, the department is seeking projects that include non-traditional partners, such as public utility operators, social service agencies, community groups, environmental organizations, non-profit organizations, public health agencies, private land development groups, and real estate investors.

- **Transportation and Air Quality Impacts**

Redevelopment projects with new facilities that require air quality permits present a challenge to cities that are not yet meeting federal air quality standards under the Clean Air Act Amendments of 1990. Obtaining an emissions permit in an already polluted area triggers a set of environmental reviews that can be time consuming and complex. On the other hand, locating a new facility in the center of a region can reduce transportation-related emissions if the project is centrally located or well served by transit. For example, the auto emissions generated by a new facility's projected employees probably will be greater if the new facility is located ten miles beyond the urban fringe than if it is centrally located near a transit station.

The EPA is working with several cities and the U.S. Conference of Mayors to examine how to quan-

tify "location efficiency" and to incorporate that approach into the permitting and air quality planning process. One goal is to quantify air quality benefits of reduced vehicle miles traveled (VMT) as a result of infill development (including brownfield reuse projects). Demonstration projects — which will test tools that can be used during the air quality planning process to help cities encourage redevelopment and meet air quality goals — are being conducted in Baltimore, Chicago, and Dallas.

• *Federal Spending Priorities*

As the federal transportation program has evolved from Interstate construction to maintenance and reconstruction of transportation infrastructure, more of the resources of the Highway Trust Fund are being made available to address metropolitan transportation problems. The National Highway System and intercity connectors remain high priorities, but resources for meeting other transportation needs are beginning to become available. For example, metropolitan areas now can "flex" funds between different transportation accounts, providing more options for improving and expanding transportation infrastructure and contributing to an area's livability. Investments in "transportation enhancements" under ISTEA — nontraditional projects ranging from historic preservation of covered

bridges to installation of bike racks — further support integrating transportation and livable community needs.

As part of the broadening of the scope of transportation planning, ISTEA listed 15 specific factors for MPOs to consider, and TEA-21 further refined these to six general factors. For example, transportation improvements must enhance the environment, promote energy conservation, and improve the quality of life. These criteria clearly can be used to justify support for brownfield related projects.

This broader vision has led to significant changes in transportation policy, providing the opportunity to develop linkages between transportation and brownfield revitalization. The CMAQ, transportation enhancements, and TCSP programs all represent the integration of transportation with other priorities. With the advent of these programs, as well as policy changes on using contaminated sites, communities now have better tools to create redevelopment packages in which transportation projects can be the driving force. Significant investment in transportation improvements can attract private inter-

ests to redevelop nearby brownfield sites. Such packaging holds great promise for urban areas.

"Demonstration projects — which will test tools that can be used during the air quality planning process to help cities encourage redevelopment and meet air quality goals — are being conducted in Baltimore, Chicago, and Dallas."

FUTURE DOT BROWNFIELD ACTIVITIES

Like many federal agencies, DOT has no formal brownfield program, but it will continue to encourage regional FHWA and FTA staff to promote community efforts that leverage existing funds for brownfield projects. DOT envisions a time when agency support for brownfield redevelopment via transportation planning and funding is a normal part of the department's business.

For example, FHWA and FTA plan near-term guidance revisions "to encourage acquisition and/or cleanup of land within brownfields for transportation purposes where such actions are feasible, reasonable, within acceptable limits of liability exposure, when cooperating partners are available, and when parties legally responsible for the contamination are pursued to the maximum extent practicable." These operating units also have pledged to

work with states to identify state laws and procedures that support the ability of transportation agencies to cooperatively acquire, manage, and/or utilize right-of-way sites in support of brownfield reuse. Finally, DOT plans to develop a compendium of best practices to advance state and local transportation strategies that support redevelopment.

For the many communities across the country hoping to clean and reuse brownfields, locating available and affordable funding has become paramount. The redirection of transportation policy under ISTEA and TEA-21 toward urban revitalization, combined with the change in DOT policy regarding contaminated sites, can put a key piece of the brownfield redevelopment puzzle — transportation infrastructure — in place at the project level.

Meeting Transportation Needs with TEA-21

TEA-21 established a new budget category for highway and transit discretionary spending, effectively establishing a budgetary "firewall" between surface transportation and all other domestic discretionary spending. DOT estimates the new budgetary treatment will result in guaranteed spending of at least \$198 billion for highways and transit through fiscal 2003.

The spending levels are based on Highway Trust Fund receipts and may be adjusted beginning in 2000. If an increase is required, funding would be distributed to states proportionate to their shares of total distributions from the Highway Trust Fund. It then would be divided proportionally among Interstate Maintenance, National Highway System, Bridge Replacement and Rehabilitation, Surface Transportation Program (STP), and Congestion Mitigation and Air Quality Improvement (CMAQ). A decrease likewise would be applied proportionally to these programs.

The guaranteed spending is a major victory for the proponents of increased investment in traditional transportation projects. Urban redevelopment advocates, on the other hand, see promise in the redirection of transportation policy principles. In addition, ISTEA and TEA-21 authorize specific funds for urbanized areas under the STP program and give metropolitan planning organizations considerable decision-making authority. The new STP also allows spending on a much broader category of projects. CMAQ, although a relatively small program, also targets funds to urban areas.

POLICY AND PROGRAM CONNECTIONS

Brownfield redevelopment can become a magnet for private development — especially when transportation projects are involved. Developers have seen the potential that access to new and improved transportation holds for brownfield sites, and they have taken the opportunity to build industrial parks, manufacturing facilities, commercial centers, and shopping malls.

While financing clearly remains difficult, the combined efforts of federal, state, and local officials have created funding possibilities that did not exist at the beginning of the decade. Many redevelopment projects have been based on package deals in which local officials offer to the developer tax incentives and liability protection in return for private-sector investment. State and federal transportation officials also can help provide access to the site for workers and/or customers, while the developer may play a role in funding the transportation project.

In addition to transportation policies, numerous other federal agencies support brownfield redevelopment. EPA, for instance, already has awarded more than 300 grants of up to \$200,000 to support municipal and regional brownfield initiatives. EPA also has seeded more than 60 revolving loan funds to provide low-cost financing for cleanup activities. In addition, many of the 24 other federal agencies that have joined with EPA and DOT on the

Brownfields National Partnership have made resources available for brownfield development.

The Taxpayer Relief Act, approved by Congress in August 1997, includes a Brownfields Tax Incentive that allows developers to deduct the full

amount of environmental cleanup costs in targeted areas in the year in which they are incurred, rather than having to capitalize them. To promote more extensive use of the tax incentive, EPA is stepping up efforts to educate developers and investors about this opportunity and Congress is trying to expand use of the tax credits to all communities.

In many cases, a proposed transportation improvement has catalyzed the cleanup and redevelopment of the brownfield, a process mirroring the suburban growth that followed the construction of the Interstate Highway System. Just as greenfields were developed in suburban areas served by elements of an expanding highway system, brownfields in urban areas are being redeveloped in conjunction with new transportation projects.

Federal, state, and local officials have begun to merge environmental, transportation, and tax policy in order to spark brownfield redevelopment. The result has been a growing number of reuse projects around the country that hold tremendous potential to promote jobs, economic growth, and improved quality of life.

"Developers have seen the potential that access to new and improved transportation holds for brownfield sites, and they have taken the opportunity to build industrial parks, manufacturing facilities, commercial centers, and shopping malls."

Transportation Investments Helping Lead the Way to Revitalization

THE GATEWAY DISTRICT — SALT LAKE CITY, UTAH

The Salt Lake City redevelopment agency is overseeing an ambitious project to transform the 650-acre Gateway District — the site of railroad tracks and maintenance facilities, heavy industry, and warehouses — into a vibrant mixed-use urban neighborhood. The Gateway District borders the central business area, but development has been hampered by many factors including deteriorated infrastructure, severe economic blight, transportation access limited by highway viaducts and rail lines, contamination resulting from heavy industry, a large homeless population, crime, and inadequate parks and open space. The former industrial center is sparsely inhabited, approximately 20 percent of the land is vacant, and more than half the land is suspected of being contaminated.

With a \$200,000 Brownfields Pilot for assessment of soil conditions, local officials were able to determine which parts of the Gateway District would be suitable for different kinds of development. At least 250 acres fail to meet residential standards, yet many of the brownfield sites, with moderate remediation, were found to be appropriate for development as multi-story office, commercial, retail, entertainment, and public uses.

To facilitate renewal of the Gateway District, Salt Lake City officials have planned major transportation improvements. Three Interstate 15 viaducts, built to carry traffic over the district's rail yards, will be shortened, increasing access to the gateway and improving visibility. City officials estimate the shortened viaducts will produce changes in land use, higher property values, and greater interest in development. A north-south light rail line is being built, and funding is being sought for an east-west line. A \$40-million intermodal hub is being constructed on 15 acres of land owned by Union Pacific Railroad in order to house light rail, Amtrak, intercity and local bus terminals, projected commuter rail, and a bicycle facility.

In addition, a Union Pacific rail yard will be relocated, opening up 55 acres of brownfields for development adjacent to the Delta Center, home of the Utah Jazz. Also planned are a 250-room hotel, office, retail, public plaza, and housing development. Consolidation of three rail lines will make another 15 acres available, on which city officials are planning a major residential, commercial, and transportation center.

Previously, 68 percent of the Gateway District was classified as industrial and less than 3 percent as residential. The area has been rezoned to allow mixed-use residential and commercial to support transit-oriented development at the light rail lines. Salt Lake City officials estimate that the Gateway District will have a population of 13,000 within two decades, will support 10,000 new jobs, and will generate \$200 million in new property taxes.

APPENDIX: THE FEDERAL TRANSPORTATION PROGRAM

Federal involvement with road construction began in 1893 when the Department of Agriculture established the Office of Road Inquiry, and Washington's role in transportation systems has expanded consistently ever since. Three trends are important to understanding how transportation policy affects urban land recycling efforts:

- The evolution of the roles of state and metropolitan transportation officials;
- The evolution of federal support for transit systems; and
- Growth in the scale of the federal investment in transportation infrastructure.

EVOLUTION OF THE ROLES OF STATE AND METROPOLITAN TRANSPORTATION OFFICIALS

State transportation officials historically have played a key role in developing our national highway system, while the role of metropolitan planning officials, though well-established today, has been less prominent. This dynamic is important because, fundamentally, transportation needs and goals are defined at the local level by politicians, businesses, developers, neighborhoods, environmentalists, and others; even though the lion's share of transportation funding comes from the state and federal levels. Since most contaminated property is in cities, the ability of urban interests to advance transportation improvements that aid site redevelopment is closely tied to their ability to influence transportation funding choices.

Today's federal transportation program traces its roots to the Federal-Aid Road Act of 1916, which established a cooperative federal-state highway program and authorized distribution of federal funds to state highway departments. The American Association of State Highway Officials (AASHO), formed in 1914, played a major role in focusing the legislation on state highway departments. (In the early part of this century, transit systems were privately operated,

and states played no major role in their management.) The act led to the construction of a network of intercity connectors, rather than a continued focus on local farm-to-market roads.

Since the 1916 act, the nation's transportation policies have retained the principle that the federal government distributes most funds through formulas to state highway agencies. State agencies are responsible for the development, design, and construction of highway projects, and transportation priorities are determined by state and local officials.

From its inception in the Department of Agriculture, the federal transportation program has focused on the economic importance of connecting cities to each other. Congressional recognition of the economic importance of a national transportation system culminated, after years of consistent expansion, in the creation of the Highway Trust Fund in 1956, which assured financing for construction of the Interstate Highway System.

A backlash from urban interests crystallized almost immediately. Major conferences of urban officials, planners, engineers, and transportation experts were organized in Hartford, Connecticut, in 1957 and Syracuse, New York, in 1958 to discuss the economic impacts an interstate highway system could have on cities. In response, state highway departments agreed to cooperate with urban officials in developing five-year transportation plans and to integrate community development needs into highway planning decisions.

The Federal-Aid Highway Act of 1962 mandated "a continuing, comprehensive transportation planning process carried out cooperatively by states and local communities" as a condition for approval of highway funds for any urban area of more than 50,000 people. The Housing and Urban Development Act of 1965 authorized grants for comprehensive area planning to organizations of public officials in metropolitan areas, which were the forerunners of the current metropolitan planning organizations (MPOs).

Congress in 1966 enacted the Demonstration Cities and Metropolitan Development Act which required that all applications for federal assistance be submitted to an area-wide planning agency for review and comment, though not for approval. In 1968, the Intergovernmental Cooperation Act required area-wide planning agencies to be established under state enabling legislation.

The role of "area-wide planning agencies" waxed and waned in the '70s and '80s until lawmakers, in the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), affirmatively acknowledged the importance of regional decision making, inter-governmental coordination, and the role of local decision makers. For the first time, the federal government codified the need to include in the planning process those affected by transportation systems — citizens, affected public agencies, representatives of transportation agency employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, and other interested parties.

ISTEA also made metropolitan planning organizations (MPOs) the primary transportation decision-making bodies in metropolitan areas. Under the ISTEA planning process, MPOs had to develop 20-year transportation plans, including an annually updated Transportation Improvement Program (TIP) to delineate short-term (three years) funding priorities as well as proof of funds available to support those projects. No federally funded project could move forward in a metropolitan area unless it was included on the MPO's TIP. The responsibility and authority of metropolitan planning officials to make such decisions was reaffirmed in the recently-enacted Transportation Equity Act for the 21st Century (TEA-21).

"Since most contaminated property is in cities, the ability of urban interests to advance transportation improvements that aid site redevelopment is closely tied to their ability to influence transportation funding choices.

The ability of transit systems to compete for federal funding is important to brownfield redevelopment for two reasons. First, transit systems often can provide the most efficient transportation services in denser urban areas, so mobility in places where brownfields are common — older cities — is closely tied to the integration of transit into the overall transportation system. Secondly, the ability of transit systems to compete for federal funds mirrors, to some extent, the ability of urban officials to articulate and secure resources for their own transportation needs.

Federal support for transit did not begin until the 1960s, even though transit had been a major part of urban America for more than a century. The first urban transit system, using horse-drawn carriages, began operating in New York in 1831. Attempts to abate the congestion that plagued major cities in the late 19th century led first to the construction of elevated rail lines and then to underground electrified rail lines or subways. Subway service was initiated in Boston in 1897, New York in 1904, and Philadelphia in 1908.

The privately-owned trolley companies generally remained successful through the end of World War I, but they suffered from management and service problems, inadequate public financial support, and competition from the fast-emerging automobile. As transit operations began to face fiscal crises, local governments were forced to take over the service. By 1947, San Francisco, Seattle, Detroit, New York, Cleveland, Boston, and Chicago all had assumed ownership of their transit companies.

In response to these financial woes and in the wake of the 1956 Highway Act, which provided stable federal monies for road projects, urban propo-

nents of transit turned their focus to the federal government as a possible source of funding. In response, the Housing Act of 1961 authorized \$25 million in grants for transit demonstration projects and \$50 million in loans from the Home Finance Agency for transit systems. The Urban Mass Transportation Act of 1964 authorized funds to pay two-thirds of the cost of transit construction and equipment acquisition; it authorized \$225 million over three years, but appropriations fell short. A five-year authorization in 1970 increased the amount to \$3.1 billion and provided "contract authority" for transit projects so that the federal government could commit to long-term funding of transit projects, just as it could with highway programs.

The Federal-Aid Highway Act of 1973 allowed cities to use their share of \$800 million in Federal-Aid Urban System funds for transit capital expenditures, the first time Highway Trust Fund money was allowed to be used for transit. The 1973 Act also enabled cities to "trade-in" segments of their Interstate Highway System for transit or other road funds. The Urban Mass Transportation Act of 1974 expanded funding for transit even further; in addition to a six-year authorization of \$7.8 billion for capital investment, it authorized \$3.9 billion for either capital or up to 50 percent of the cost of transit system operations.

In 1982, Surface Transportation Assistance Act provided for a five-cent per gallon increase in the gas tax in order to help fund the accelerated pace of interstate highway construction and reconstruction. In a major breakthrough, the federal government dedicated one cent of that increase to a new Mass Transit Account within the Highway Trust Fund that would pay for construction and capital improvements of transit systems. This action established the

precedent to guarantee that one-fifth of future gas tax increases would be dedicated to transit.

The integration of transit into the nation's overall transportation planning and development system provides an array of mobility options important to central cities. Urban cores and "streetcar suburbs" often cannot be served effectively by automobile-dependent systems and need a balanced transportation approach with multiple options. As residents of auto-oriented, post-war suburbs feel their economies and quality of life further downgraded by traffic congestion, the value of a balanced transportation system will become even more apparent.

GROWTH IN THE SCALE OF THE FEDERAL INVESTMENT IN TRANSPORTATION INFRASTRUCTURE

The federal investment in transportation has increased steadily throughout this century. The Federal-Aid Highway Act of 1956 created the Highway Trust Fund, supported by the gas tax, to pay for 90 percent of the cost of the renamed national System of Interstate and Defense Highways. The 1956 act became a driving force behind the economic growth of communities and regions across the nation.

The federal commitment has grown from \$25 billion over 12 years (initially authorized by the 1956 Act); past \$151 billion in ISTEA in 1991; to \$198 billion over six years, as authorized by TEA-21. In fiscal 1997 the Highway Trust Fund raised more than \$25 billion from the 18.4-cent a gallon gas tax, 24.4-cent diesel fuel tax, weight-based tax on heavy truck tires, and retail sales tax on truck and trailer sales.

Components of the Federal Transportation Program

National Highway System (NHS): 163,000 miles of urban and rural roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations. It includes the Interstate System, other urban and rural principal arterials, highways that provide motor vehicle access between the NHS and major intermodal transportation facilities, the defense strategic highway network, and strategic highway network connectors. Funds are distributed through a formula based on a state's lane-miles of principal arterials (excluding Interstate), vehicle-miles traveled on those arterials, diesel fuel used on the state's highways, and per-capita principal arterial lane-miles.

Interstate Maintenance: For maintenance and improvement of the 46,000-mile Dwight D. Eisenhower National System of Interstate and Defense Highways. The program consists of restoration, resurfacing, rehabilitation, and reconstruction. Funds are distributed through a formula based on a state's lane-miles of Interstate highways open to traffic, vehicle-miles traveled on those Interstates, and contributions to the Highway Account of the Highway Trust Fund attributable to commercial vehicles.

Surface Transportation Program (STP): Flexible funding for state and local governments to use on any federal-aid highway (including the NHS), bridge projects on any public road, transit capital projects, and bus terminals and facilities. Funds are distributed using a formula based on a state's lane-miles of federal-aid highways, total vehicle miles traveled on those highways, and estimated contributions to the Highway Account of the Highway Trust Fund. States are required to set aside 10 percent of their STP funds for safety construction activities, defined as hazard elimination and railway-highway crossing improvements, and 10 percent for transportation enhancements such as bicycle and pedestrian improvements, historic preservation, and other environmentally-related activities. Using a formula in the federal statute, funds must be distributed to urbanized areas with populations above 200,000.

Bridge Replacement and Rehabilitation: Funding provides assistance for eligible bridges on any public road. Funding is distributed through a formula based on a state's needs in relation to national needs.

Congestion Mitigation and Air Quality Improvement (CMAQ): A flexible funding source to help state and local governments fund transportation projects that help meet the requirements of the federal Clean Air Act. Eligible activities include transit improvements, travel demand strategies, traffic flow improvements, and public fleet conversions to cleaner fuels. Funding is distributed based on a formula that considers an area's population by county and the severity of its air quality problems within a nonattainment or maintenance area. Greater weight is given to carbon monoxide nonattainment and maintenance areas.

Up to 50 percent of a state's apportionments under the NHS, Interstate Maintenance, bridge, and CMAQ programs may be transferred to the other programs or to STP. CMAQ funds that are transferred must be used in nonattainment or maintenance areas. If approved by the Secretary of Transportation, up to 100 percent of a state's NHS funds may be transferred to STP.