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Transit use increased 25% between 1995 and 2005, faster than any other mode of transportation. However, nearly half of American households do not have access to bus or rail transit, and only 25% have what they consider to be a "good option." The Federal Transit Administration estimates \$15.8 billion is needed annually to maintain conditions and \$21.6 billion is needed to improve to good conditions. In 2008, federal capital outlays for transit were only \$9.8 billion.

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TRANSPORTATION

TRANSPORTATION TRANSIT

RAISING THE GRADES SOLUTIONS SOLUTIONS



- **AUTHORIZE** a new federal surface transportation policy using a needs-based approach to determine funding;
- INCREASE access to public transit services to reduce congestion in urban areas and connect to suburban and rural areas;
- ★ IMPLEMENT a "mode-neutral" planning process that examines the specific needs of metropolitan areas and regions and implements the most effective transportation mode to meet those needs.

CONDITIONS

In recent years, transit use has increased more rapidly than any other mode of transportation. Ridership increased by 25% from 1995 to 2005—to 10.3 billion trips a year, the highest number of trips in 50 years. An estimated 34 million trips are taken on public transportation each weekday and of those trips, 59% are taken by individuals commuting to and from work, 11% by individuals traveling to and from school, and 9% by individuals traveling to and from leisure activities.¹ By moving workers and shoppers, transit is increasingly becoming a major economic factor.

In 2004, there were 640 local public transit operators serving 408 large and small urbanized areas and 1,215 operators serving rural areas. In addition, there were 4,836 specialized services for the elderly and disabled in both urban and rural areas, representing a total increase in these types of services since 2002. These systems operate more than 120,659 vehicles. Transit rail operators controlled 10,892 miles of track and served 2,961 stations. Between 2000 and 2004, the number of urban transit vehicles increased by

Indicating an increase in service demand, 23 of 32 (72%) of local ballot initiatives for public transportation—or initiatives with a public transit component—were passed in 2008, authorizing nearly \$75 billion in expenditures. 13.4%, track mileage grew by 3%, and the number of stations grew by 4.8%. Also during that time, the number of passenger miles traveled by all transit passengers increased at an annual rate of 1.3% between 2002 and 2004. Passenger growth on transit rail lines grew at an even greater rate, 4.3%.²

SAFETEA-LU, which will expire on September 30, 2009, authorized more than \$45 billion in transit investments. However, the increased popularity of transitas evidenced by robust increases in transit ridership and strong support for local funding initiatives-has led to growth in both the number and size of transit systems in the U.S. While new investment brings badly needed transit service to more Americans, existing systems continue to require investments to replace aging infrastructure; thus, the revenue that is available must be spread further than ever before. At the same time, dwindling revenues in the Highway Trust Fund impact the transit sector's financial health at a time when more Americans are relying on it for travel.

While mass transit can be an affordable and environmentally friendly travel alternative to automobiles, the American Public Transportation Association (APTA) estimates that approximately half of Americans do not have access to reliable transit systems. A 2005 survey conducted by the U.S. Department of Housing and Urban Development and the U.S. Census Bureau found that only 54% of American households have access to bus and rail transit and only 25% have what they consider a good alternative to such transit.

TABLE $12.1 \star$ Traffic Delay Reduction Due to Public Transportation

POPULATION GROUP AND NUMBER OF AREAS	AVERAGE ANNUAL PASSENGER-MILES OF TRAVEL IN MILLIONS	HOURS OF DELAY IN MILLIONS	PERCENT OF BASE DELAY	DOLLARS SAVED IN MILLIONS
Very Large	37,691	430	1,700%	\$8,091
Large	5,459	64	700%	\$1,193
Medium	1,665	15	400%	\$270
Small	287	1	300%	\$26
Other	6,324	31	500%	\$574
National Urban Total	51,426	541	1,300%	\$10,154

SOURCE Urban Mobility Report, Texas Transportation Institute, 2007

The Federal Transit Administration (FTA) rates system conditions on a fivepoint scale—one being poor and five being excellent. FTA's 2006 Conditions and Performance Report indicates that the condition of the nation's transit infrastructure remained largely unchanged during the past four years. The estimated average condition of the urban bus fleet was 3.08 in 2004, a minor improvement from 3.07 in 2000. The average bus age was reported to be 6.1 years, down slightly from 6.8 years in 2000. The estimated average condition of rail vehicles was 3.5 in 2004, down from 3.55 in 2000.²

While bus and rail fleet conditions have remained essentially the same, rail transit station conditions have worsened. Only 49% of stations are in adequate or good repair and 51% are in substandard or worse condition. In 2000, 84% of stations were rated as adequate or better. The Federal Highway Administration notes that differences in ratings are due to a change in the methodology used to evaluate station conditions since the last report.² The condition of such other structures as tunnels and elevated structures has improved: 84% were in adequate or better condition in 2004 compared to 77% in 2000.²

Funding increased modestly between 2000 and 2004. Indicating an increase in service demand, 23 of 32 (72%) of local ballot initiatives for public transportation—or initiatives with a public transit component—were passed in 2008, authorizing nearly \$75 billion in expenditures.¹ Much of this local revenue is intended to match federal investments. Total capital spending from all sources was \$12.6 billion in 2004, up from \$12.3 billion in 2002, and up more than 140% during the past 15 years. Federal contributions totaled \$9.8 billion in 2008.²

The FTA estimates that an additional \$6 billion should be spent annually to maintain current conditions; however to improve conditions, a total of \$21.6 billion needs to be spent annually.² These estimates are supported by the recent findings of the Federal Surface Transportation Study and Revenue Commission. Assuming a constant level of investment relative to 2006 dollars, transit ridership will continue to increase unimpeded to between 18 and 20 billion trips annually. If funding is increased, however, transit ridership will be able to increase more rapidly and the physical condition of the nation's transit systems will improve.3 With a "medium" level of funding-between \$14 and \$18 billion a year-the Commission estimates that between 26,000 and 51,000 new vehicles could be added to the system and that between 1,100 and 1,500 additional miles of rail track could be laid. In addition. average condition will increase to 4.0 and the system will be able to accommodate between 12 and 14 billion trips annually by 2020. During that same time period, with a "high" level of funding-between \$21 and \$32 billion annually-between 51,000 and 96,000 new vehicles could be added to the fleet and between 3,000 and 4,400

TABLE $12.2 \star$ Revenue Sources for Transit Financing in Millions of Dollars: 2004

	FEDERAL	STATE	LOCAL	TOTAL	%
General Fund	1,391	2,043	2,692	6,126	16%
Fuel Tax	5,564	505	148	6,217	16%
Income Tax		187	98	285	1%
Sales Tax		2,106	4,765	6,871	17%
Property Tax		63	490	553	1%
Other Taxes		1,044	784	1,828	5%
Other Public Funds		1,844	4,682	6,526	17%
Total Public Funds	6,955	7,792	13,659	28,406	72%
Passenger Fares			9,114	9,114	23%
Other Revenue			1,979	1,979	5%
System-General Revenue			11,093	11,093	28%
Totals	6,955	7,792	24,752	39,499	100%

GRADES CASE STUDIES

SALT LAKE CITY, UT **★** Utah Transit Authority Transit Express (TRAX)



Since its inception as a way to move spectators during the 2002 Olympic Winter Games, the Salt Lake City transit system, Transit Express (TRAX), has served the city and its surrounding suburbs as a quick and affordable way to travel. When the first line opened in 1999, estimates predicted that the system would move approximately 15,000 people a day. However, current statistics from APTA show that ridership has increased exponentially, to approximately 53,000 customers a day in the last quarter of 2008. There are now plans to add at least 3 new lines to the 19mile system, extending it to the airport and farther into the growing suburbs. *Photos courtesy of Utah Transit Authority* Transit Express.



GRADES CASE STUDIES

DENVER, CO \star Regional Transportation District Transit System

The Denver-area Regional Transportation District operates a complex transit system that includes bus and light-rail service from the suburbs to the city center. The development of six lightrail lines has eliminated the need for many bus lines and other special services, including bus service to the airport and sporting events, which helps alleviate congestion on the region's roadways. During the first quarter of 2008, ridership on light rail increased



7.19% from the same period in 2007, according to APTA. *Photo courtesy of LightRail*Now, *photo by Dave Dobbs*.

MISSOULA, MT ★ Missoula Urban Transportation District (Mountain Line)



The Missoula Urban Transportation District, or Mountain Line, began operating in 1977 with three used buses on four routes. Since then the agency has grown to operating 6 days per week and now boasts 30 buses, 12 routes, and 55 employees. In 2008, the Mountain Line provided more than 800,000 rides to customers in this community of approximately 90,000 residents. In July 2008—typically a slower time of year for the agency—the Mountain Line experienced its highest summer ridership levels ever, showing a 30% increase over the previous year. Customer service calls indicated a swell of first-time riders seeking to decrease the cost of commuting to work. Despite decreasing gas prices, ridership remains high. *Photo courtesy of Missoula, Montana Office of Planning and Grants.* miles of track could be laid. The number of annual trips could increase to between 13 and 17 billion.³

The 2008 State and National Public Transportation Needs Analysis, commissioned by APTA and the American Association of State Highway and Transportation Officials, estimated the total funding requirements for various growth percentages. Assuming a moderate annual passenger growth rate of 3.52%, \$59.2 billion must be spent annually by all levels of government in order to improve both infrastructure condition and service performance. Total expenditures by all levels of government in 2007 were \$47.05 billion.⁴

RESILIENCE

Transit systems are key contributors to a region's economic vitality and emergency preparedness. And when properly implemented, transit systems offer significant environmental benefits. The current U.S. transit system is not highly resilient because of a lack of integrated systematic planning, security mitigations, and adequate funding. While underground transit systems typically perform well during natural hazards, they remain vulnerable to terrorist attacks. Despite these vulnerabilities, transit systems are often called upon to move people in times of disaster. Those vulnerabilities must be overcome to ensure that transit systems will perform well when needed.

While mass transit can be an affordable and environmentally friendly travel alternative to automobiles, the American Public Transportation Association (APTA) estimates that approximately half of Americans do not have access to reliable transit systems.

CONCLUSION

The increased ridership on transit systems across the country and local support for new and expanding systems is a clear sign that Americans want transit to take a larger role in the country's surface transportation system. Yet years of underfunding and unreliable service threaten the economic and environmental benefits that transit can provide.

Transit systems must become an integrated part of any community's transportation planning process and receive adequate funding to encourage further growth. Greater emphasis must be placed on connecting rural and suburban areas through transit to ease congestion, provide assistance to Americans with limited mobility, and develop local economies.

Current conditions, coupled with an uncertain economic climate, raise concerns for transit. Future investments must focus on additional, systemwide travel options; technological innovations; lifecycle funding; modernization to support future growth; increased network redundancy and connectivity; and improved design and construction standards to withstand both natural and man-made extreme conditions. ★

SOURCES

1 American Public Transportation Association, 2008 Public Transportation Factbook, June 2008.

2 U.S. Department of Transportation, *Status of the Nation's Highways, Bridges, and Transit: 2006 Conditions and Performance, 2007.*

3 National Surface Transportation Policy and Revenue Study Commission, *Final Report*, 2008.

4 American Public Transportation Association and the American Association of State Highway and Transportation Officials, *State and National Public Transportation Needs Analysis*, September 2008.

GRADES CASE STUDIES

ORANGE COUNTY, CA \star Orange County Transportation Authority





Even in the car-dominant culture of Southern California. the Orange County Transportation Authority (OCTA) ranks as one of the busiest transportation authorities in the nation, operating a 650-vehicle bus system with approximately 65.5 million customer boardings annually. APTA recognized OCTA as the number one transportation agency in 2005 for achievement in safety and paratransit service, as well as record ridership growth. The system also works to protect the environment by operating a large fleet of cleanburning vehicles. OCTA continues to experience exceptional ridership growth, reaching 6.3 million boardings in October 2008-the highest in the agency's 36-year history. Photos courtesy of Orange County Transportation Authority.