

ADDITIONAL INFORMATION RELATIVE TO ACCESS MANAGEMENT

Why Access Management is Good for Communities

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Florida and Texas

A 1989 study found that more than 70 percent of the businesses impacted by an access management project in Florida reported no change in property value, while 13 percent reported some increase in property value.

A study in Texas (1999) determined that land values along Texas corridors with access management projects stayed the same or increased. They found very few exceptions to this observation.

1998 Florida Survey

Approximately 62 percent of surveyed businesses reported no changes in business sales following the retrofit of a boulevard in Fort Lauderdale.

A survey conducted in Orlando also found that 80 percent of the drivers believed that the road was safer with improved traffic flow.

Approximately 60 percent of the drivers, however, did indicate that required U-turns were not convenient.

Kansas

In 2000, a study of properties impacted by access changes determined that the majority of adjacent business remained the same after the access management project was completed, even for the businesses that had direct access before the project and access restricted to frontage roads following project completion.

Washington, 2006

Evaluated 280 businesses along six commercial corridors. They performed this analysis by issuing a survey to the local business.

The survey focused on business use, business operation, access management, street environment, and corridor characteristics.

Most businesses with shared driveways or traffic signals at their driveways had a positive perception of access management, while driveways with a right-in right-out configuration were perceived by the businesses to negatively impact patronage.

Minnesota, 2007

A study of commercial property values adjacent to a major access management project and found that changes in access had little or no effect on property values.

Local economy and the general location of the property were determined to be greater contributors to the value of properties.

After a comprehensive analysis of population, changes in income, types of retail businesses, and retail sales from 1980-2000, further evaluated land values and business productivity and determined that the impacts of access management improvement projects were either neutral or positive for all business types.

Iowa, (1998) five case studies with raised medians, TWLTLs, and driveway consolidation

Iowa researchers evaluated sales tax data and determined that sales along the corridors outpaced those of the overall community by 10 to 20 percent following the completion of adjacent access management projects.

The business owner surveys further indicated that more than 85 percent of the businesses reported that their sales either remained the same or increased.

Only five percent reported a decrease after the implementation of access management, although they did not identify any direct correlation between this decrease and the access management implementation.

Golden, Colorado

Golden was a five 5 lane commercial strip with TWLTL and signals

Installed 4 roundabouts and raised median



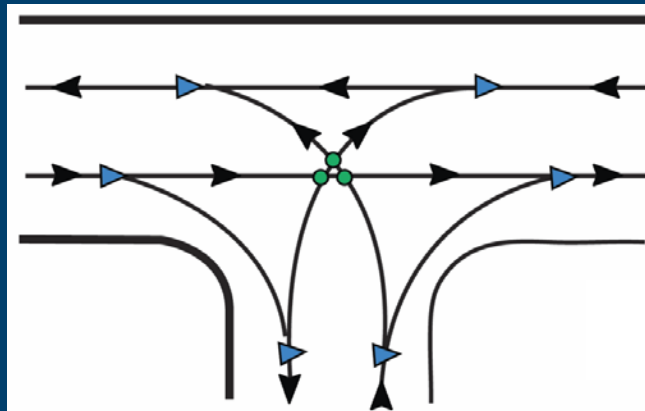
Golden, CO Sales Tax Results

66% crash rate reduction. 99% drop in injury rate



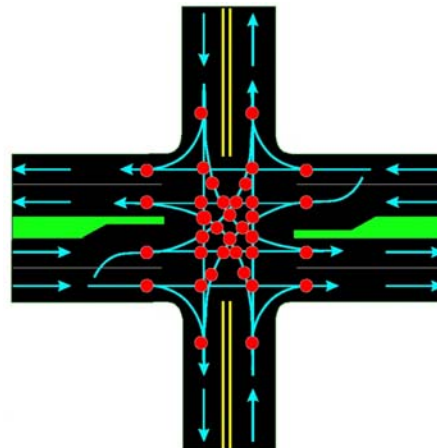
What do we mean by “roadway conflicts”?

Places where paths cross, diverge or merge are considered potential conflicts



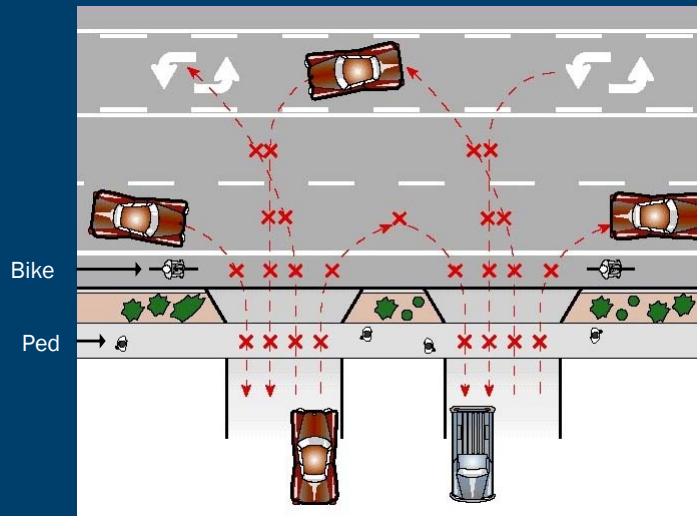
Severe
Consequences:
not all conflicts
are the same

22 crossing conflicts
“kill zone”
8 merging
8 diverging

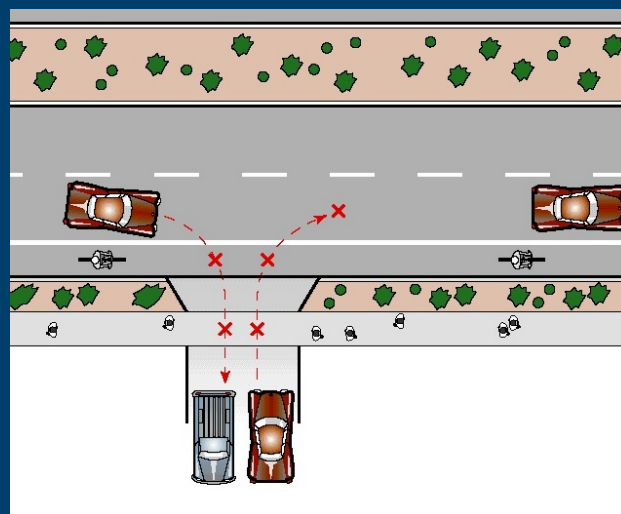


Graphic from Teachamerica and Florida DOT

Full movement driveways increase bike and pedestrian hazards



Medians reduce bike and pedestrian conflicts

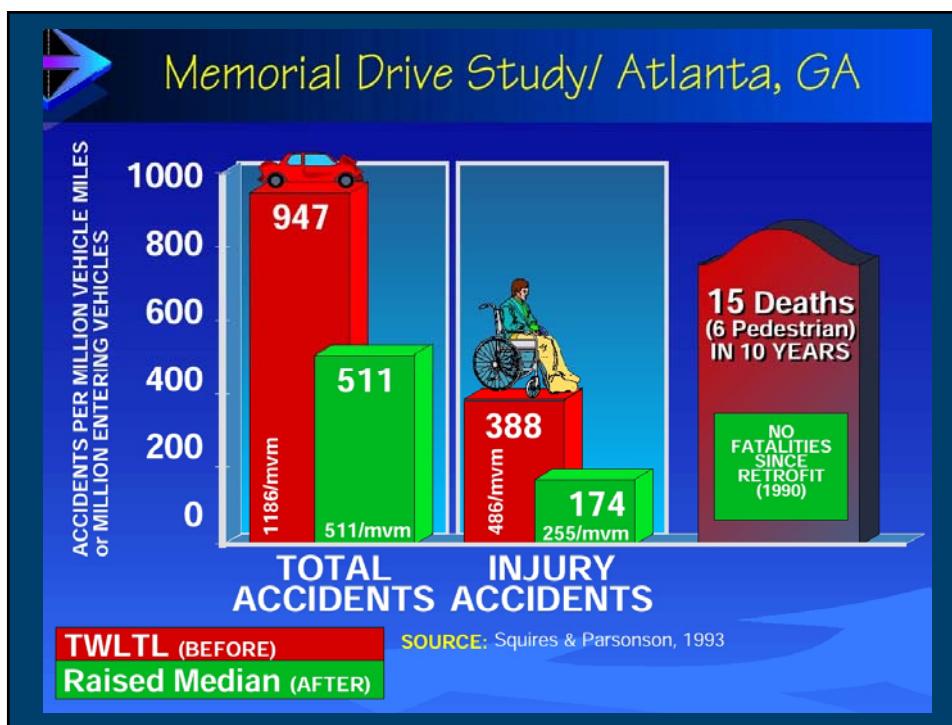


Memorial Drive, Atlanta Georgia

From TWLTL to Raised median on 6 lanes

Based on business tax records from before the TWLTLs were replaced by raised medians, they found that 21 business owners reported a decrease in sales, while 15 reported an increase in sales following median construction.

The results suggested that the raised median did not lead to an overall negative impact, although some mid-block businesses may have suffered more than others.



Signalized and Unsignalized Intersections



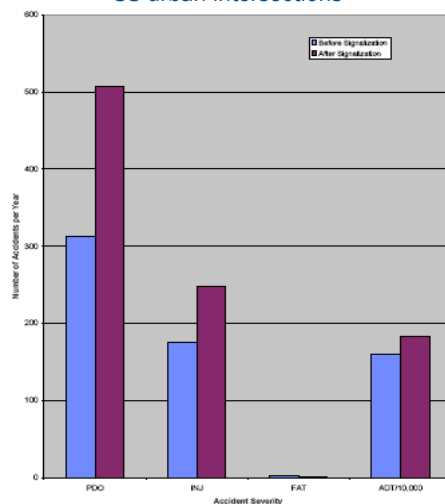
27.3 % of all
reported crashes

Almost 25% of all
traffic fatalities

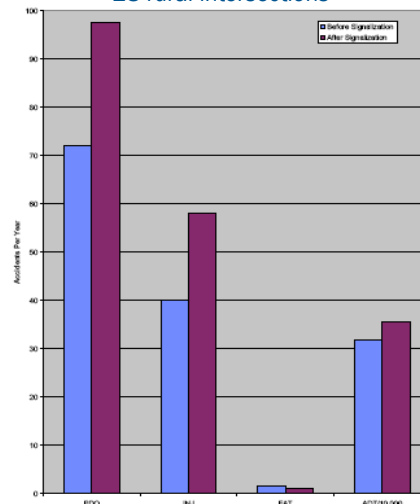
Almost 50% of all
traffic injuries

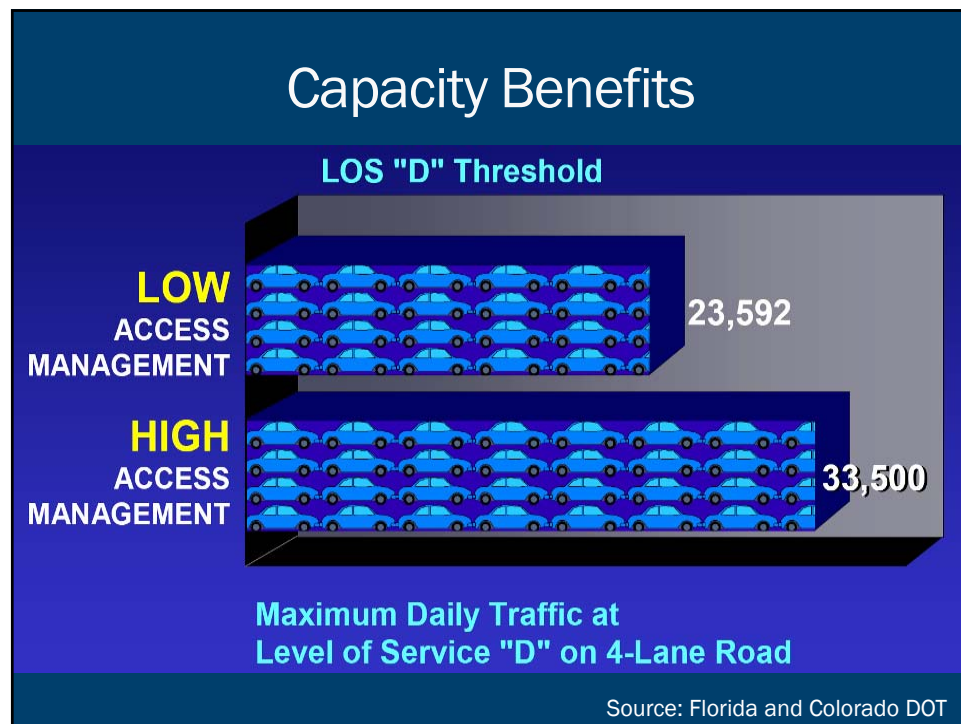
Signals Increase Accidents (a 2002 study in Colorado)

88 urban intersections



28 rural intersections





Transportation and the Economy

Efficient transportation is a critical component of economic development and the welfare of society locally, regionally and nationally.

This is even more important in the global economy where economic opportunities are increasingly related to the mobility of people, goods, and information.

Transportation systems affects development patterns, and when efficient, they provide economic and social benefits that result in better accessibility to markets, employment, and community facilities at a lower cost.

Connecting to more locations and increases the value and effectiveness of trade.

Reduces cost and time for freight movements keeping costs lower and more competitive at point of sale.

Transportation and the Economy

Reliability—lowers the risk of unintended delay and scheduling failures and provides assurances of long-term, on-time performance and prevention of loss and damage, maintaining the value of the initial investments in production location and reliable distribution systems

Market size—adds to economies of scale in production, distribution, and consumption, increasing economic opportunity and growth

Productivity—increases productivity gained from access to a larger and more diverse base of needed production resources such as raw materials, parts, energy, and labor, and satisfies a broader markets for more diverse outputs

Retail is important but not the only important business sector

A very important part of an economy is production.

Processing raw materials or creative ideas to create products to sell has high profits – generating new capital.

Retail circulates money, produces useful taxes, but does not produce 'imports' except for tourist services.

Production requires efficient movement of goods – raw materials and finished products.

Every additional minute of transportation increases overhead, increases product price and decreases its competitiveness in the market place.

A new signal slows traffic and the economy.

There is no right to create safety problems or hazards



There **is** a right to develop property and access to the property is a necessity to develop and use.

But property rights do not include the right to create safety problems on public facilities.

Property rights do not extend onto the right of way



Abutting owners have no rights to control the design and operation of the public roadway or rights to the character or volume of traffic.

Before and after adding restrictive medians

Converting TWLTLs to raised medians – a Florida study.

6 lane roads averaged a 73% reduction.

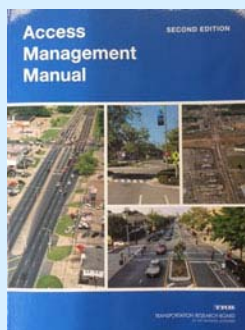
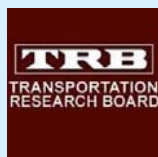
4 lane roads averaged a 33% reduction in left turn crashes.

Table 6-3: Summary Crash Statistics at Six-lane Urban Arterials

	Before		After		Percent Change in Crash Rate
	No. of Crashes	Crash Rate	No. of Crashes	Crash Rate	
Crash Type					
Head-On	19	0.035	9	0.017	-52.3%
Rear-End	766	1.425	565	1.058	-25.8%
Angle	330	0.614	183	0.343	-44.2%
Left-Turn	407	0.757	106	0.199	-73.8%
Right-Turn	59	0.110	31	0.058	-47.1%
Sideswipe	118	0.220	106	0.199	-9.6%
Pedestrian	54	0.100	32	0.060	-40.4%
Bicycle	44	0.082	44	0.082	0.6%
Others	230	0.428	189	0.354	-17.3%
Total Crashes	2027	3.772	1265	2.369	-37.2%

Source: Leman Ctr for Transp Research, Florida International Univ. 2012

Access Management Resources



Standing Committee on Access Management

Synthesis of Highway Practices

Access Management on Crossroads in the Vicinity of Interchanges, 332

Land Development Regulations that Support Access Management, 233

Driveway Regulation Practices, 304

Circular 456, Driveway and Street Intersection Spacing

Reports

NCHRP Report 304, Driveway Regulation Practices

NCHRP Report 337, Cooperative Agreements for Corridor Management

NCHRP Report 348, Access Management Guidelines for Activity Centers

NCHRP Report 351, Access Rights: A Synthesis of Highway Practice

NCHRP Report 395, Capacity and Operational Effect of Midblock LT's

NCHRP Report 420, Impacts of Access Management Techniques

NCHRP Report 524, Safety of U-Turns at Unsignalized Median Openings

NCHRP Report 548, A Guidebook for Including Access Management in Transportation

Nashville MPO – SR 109 Access Study

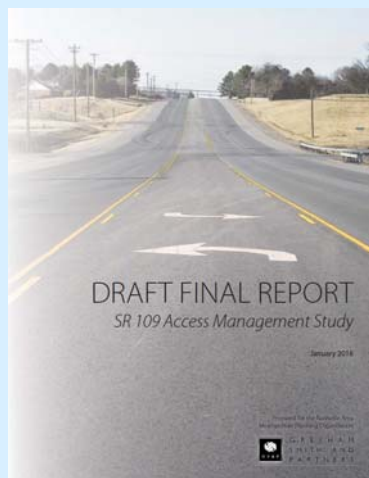





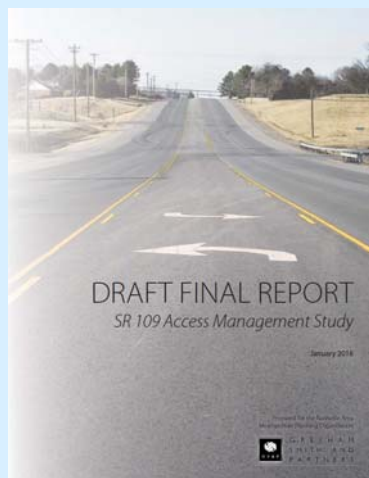







Table 4-1. Safety Impacts of Access Management Treatments

Treatment	Effects
 Add continuous two-way left-turn lanes (TWLTL)	<ul style="list-style-type: none"> 35% reduction in total crashes 30% decrease in delay 30% increase in capacity
 Add non-traversable median	<ul style="list-style-type: none"> >55% reduction in total crashes 30% decrease in delay 30% increase in capacity
 Replace TWLTL with a non-traversable median	<ul style="list-style-type: none"> 15%-57% reduction in crashes on 4-lane roads 25%-50% reduction in crashes on 6-lane roads
 Add a left-turn bay	<ul style="list-style-type: none"> 25% to 50% reduction in crashes on 4-lane roads Up to 75% reduction in total crashes at unsignalized access 25% increase in capacity
 Type of left-turn improvement a) painted b) separator or raised divider	<ul style="list-style-type: none"> 32% reduction in total crashes 67% reduction in total crashes



Nashville MPO – SR 109 Access Study



Treatment	Effects
 Add right-turn bay	<ul style="list-style-type: none"> 20% reduction in total crashes Limit right-turn interference with platooned flow, increased capacity
 Increase driveway speed from 5 mph to 10 mph	<ul style="list-style-type: none"> 50% reduction in delay per maneuver; less exposure time to following vehicles
 Visual cue at driveways, driveway illumination	<ul style="list-style-type: none"> 42% reduction in crashes
 Prohibition of on-street parking	<ul style="list-style-type: none"> 30% increase in traffic flow 20%-40% reduction in crashes
 Long signal spacing with limited access	<ul style="list-style-type: none"> 42% reduction in total vehicle-hours of travel 59% reduction in delay 57,500 gallons fuel saved per mile per year

Source: "Access Management, Location and Design," National Highway Institute (2000)



Access Management is Good for Business

Mitigate Business Impacts

An important aspect of minimizing the impact of access management projects and medians is to maintain open access to businesses during the construction phase.



Potential actions to mitigate construction impacts

- Clearly sign business entrances from the roadway
- Provide temporary and/or secondary business access points, where feasible
- Schedule construction during after-business hours or during times of low usage for seasonally oriented businesses
- Avoid blocking business entrances with construction equipment or construction barriers
- Provide alternative parking, if possible and avoid taking or blocking parking spaces
- Establish a single point of contact in the agency about the construction project to communicate with property and business owners
- Provide regular project progress reports to business and property owners



Source: MDOT Access Management Manual