Indiana Statewide Access Management Study

2007 Road School

Dan Buck, INDOT
Jerry Gluck, Urbitran

Study Team

- INDOT: Steve Smith & Dan Buck
- Advisory Committee
  - INDOT District/INDOT Central Office
  - Transportation Stakeholders—MPOs, IPA, Ind. Assoc. of County Eng. FHWA
- Consultant Team:
  - Urbitran: Jerry Gluck & Matt Lorenz
  - Bernardin Lochmueller: David Ripple
  - Special Advisors

Overview of Presentation

- Overview of Access Management
- Report on INDOT Study
- Review of Study Products
- Elements of Implementation Plan

What is Access Management?

What happens if you don't manage access?

Access Management is...

- A process that provides or manages access to land development while preserving the safety, capacity and efficiency of the roadway system

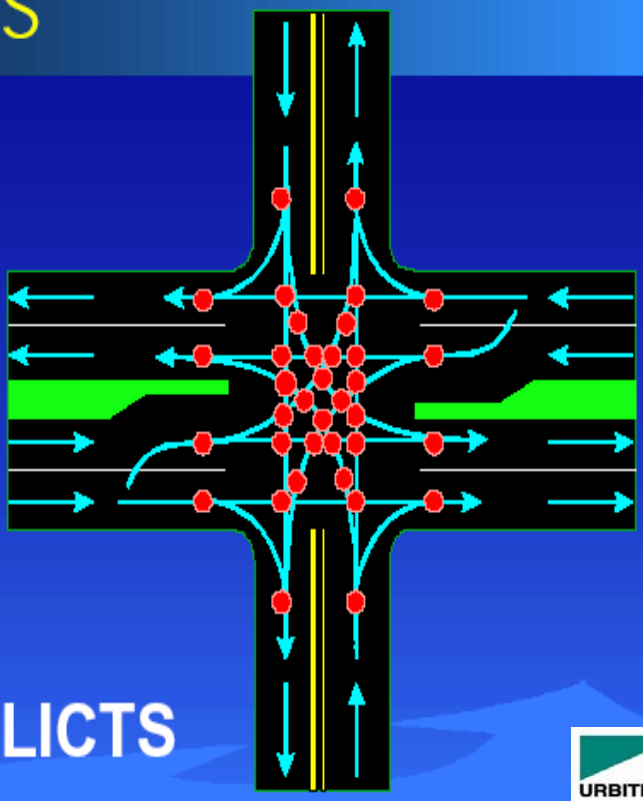
Access Management is…

- The control and regulation of the spacing and design of:
  - Driveways
  - Medians
  - Median openings
  - Traffic signals
  - Freeway interchanges

The Principles of Access Management

- Limit the number of conflict points.
- Separate the conflict points.
- Remove turning vehicles and queues from through movements.

CONFLICTS



36 CONFLICTS

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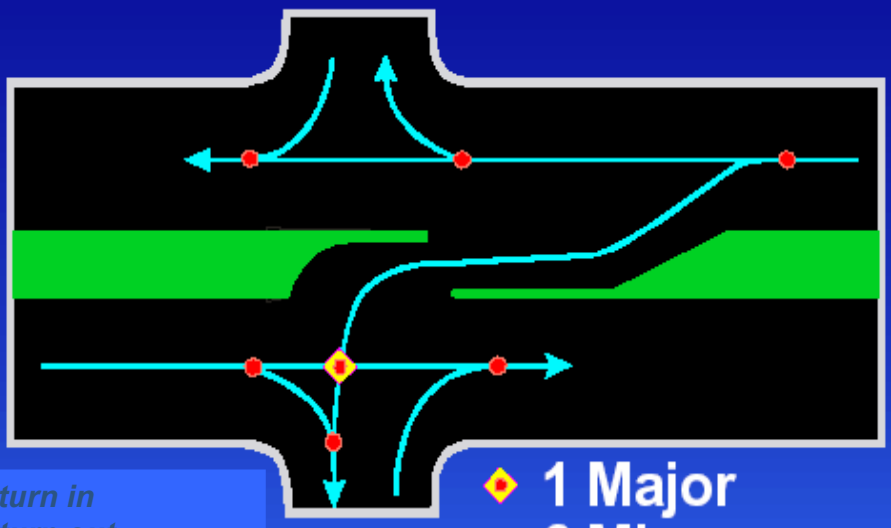
Conflicts



Right-turn in
Right-turn out
Left-turn in (1 direction)

- 1 Major
- 6 Minor

7 CONFLICTS

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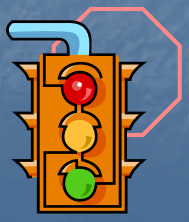
What are the benefits of Access Management?

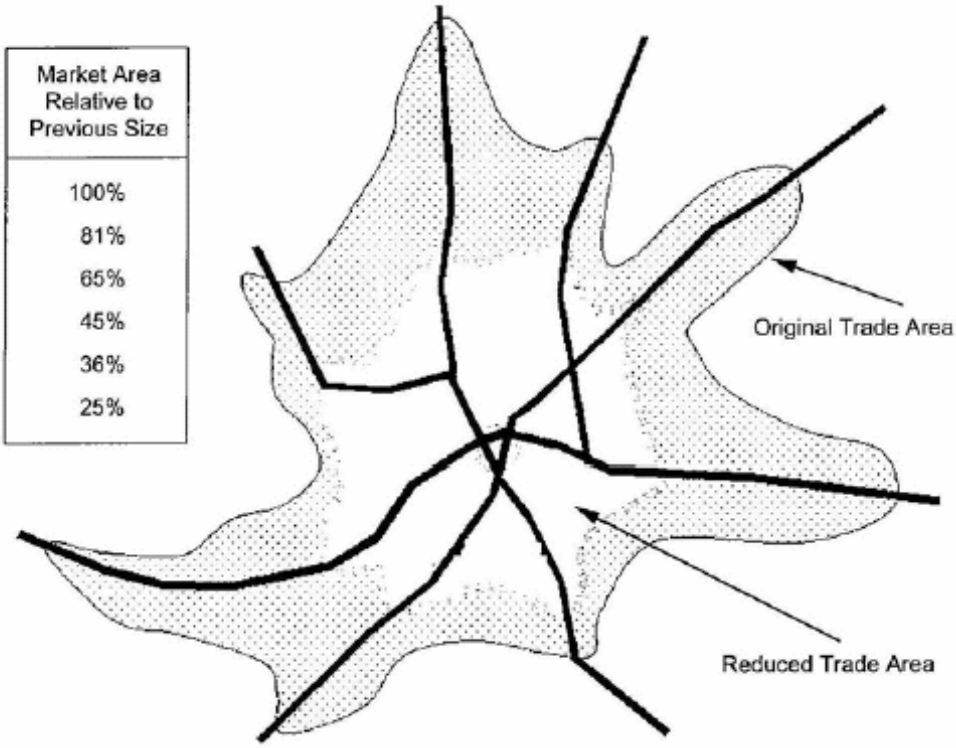
Benefits of Access Management

- System preservation
- Economic
- Environmental
- Roadway safety
- Traffic operations
- Aesthetic

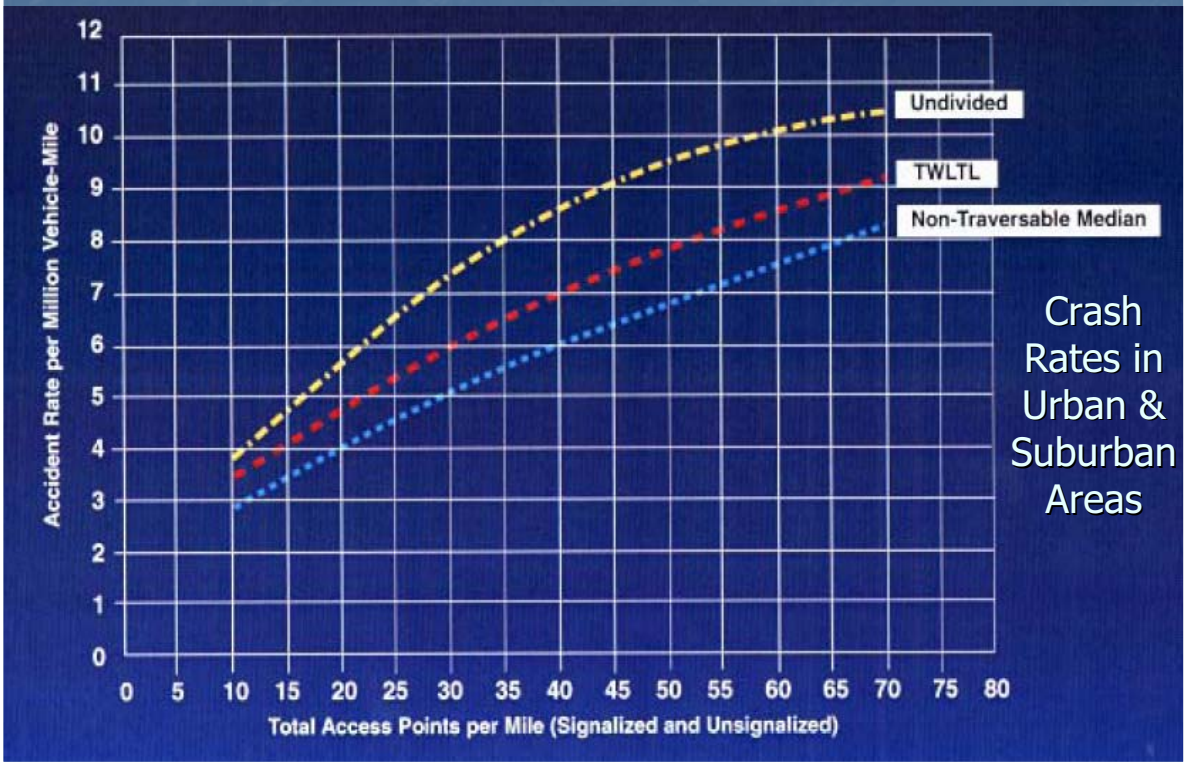


Economic Benefits

Reduction in Average Speed	Market Area Relative to Previous Size
0%	100%
10%	81%
20%	65%
30%	45%
40%	36%
50%	25%

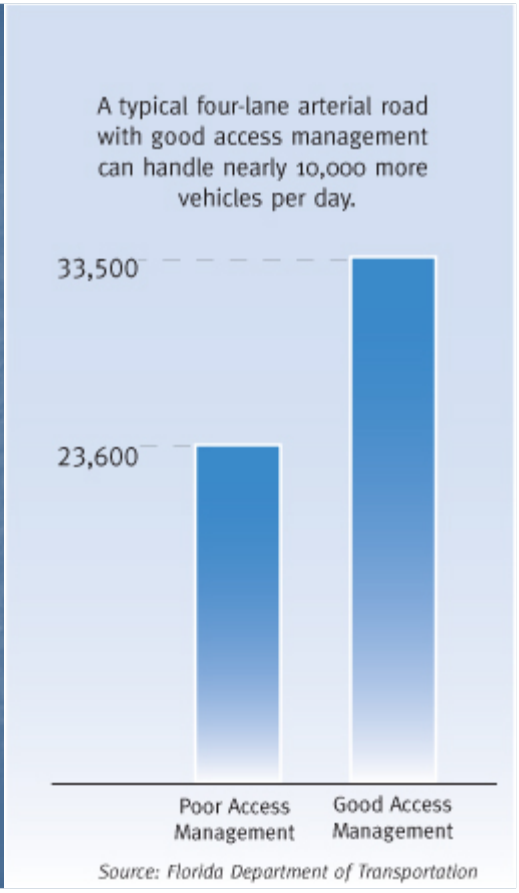


Safety Benefits



Crash Rates in Urban & Suburban Areas

Traffic Operations Benefits: Increased Capacity



Traffic Operations Benefits: Reduced Delay

Traffic Operations Benefits: Signal Spacing

Signals Per Mile	Percent Increase in Travel Time (compared to 2 signals per mile)
2	0
3	9
4	16
5	23
6	29
7	34
8	39

Study Tasks

Task 1 – Establish Study Advisory Committee
Task 2 – Review Legislation and Rules
Task 3 – Review Current Practices
Tasks 4 and 5 – Develop and Refine Access Classification System
Task 6 – Identify Methods for Implementation
Task 7 – Develop Implementation Plan
Task 8 – Pilot Project: US-31 Corridor Preservation
Task 9 – Produce Access Management Guide
Task 10 – Conduct Training Courses

INDOT Access Management Guide

- Final Product distributed to Study Advisory Committee and to be posted on INDOT Web
- Intended as a day-to-day reference manual for INDOT staff
- Intended for use in conjunction with existing documents:
  - *TRB Access Management Manual (2003)*
  - *Driveway Permit Manual*
  - *Applicant's Guide to Traffic Impact Studies*
  - *Roadway Design Manual*

Elements of the Implementation Plan

- Adopt and Implement an Access Classification System
- Implement Access Spacing and Design Criteria
- Improve Local Coordination
- Training and Education Efforts
- Consider Retrofit Techniques
- Other Actions

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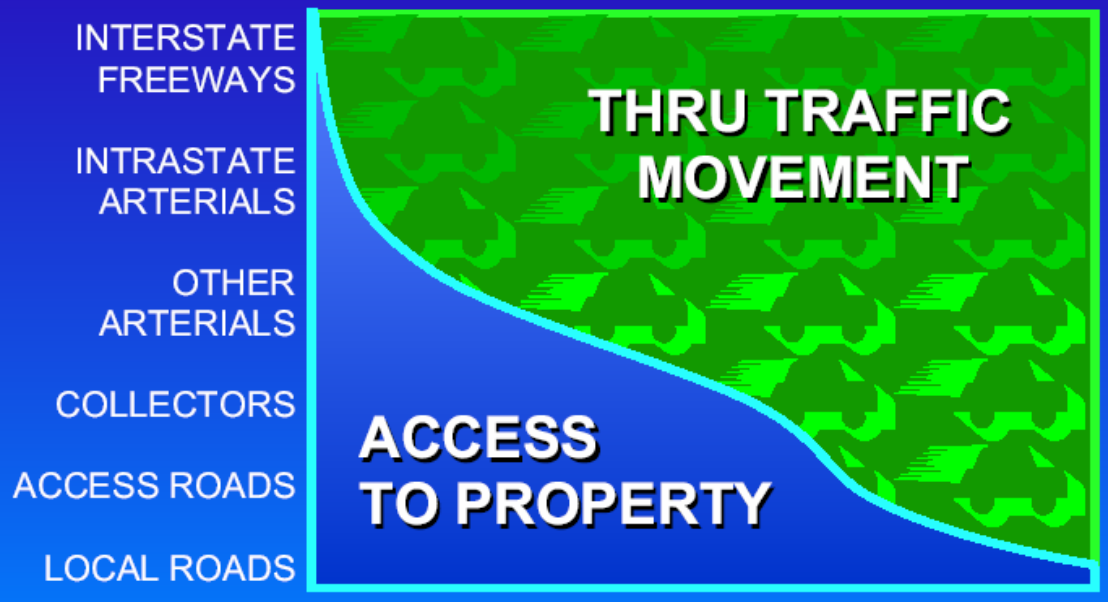
Movement / Access Balance



Considerations for Defining Access Categories

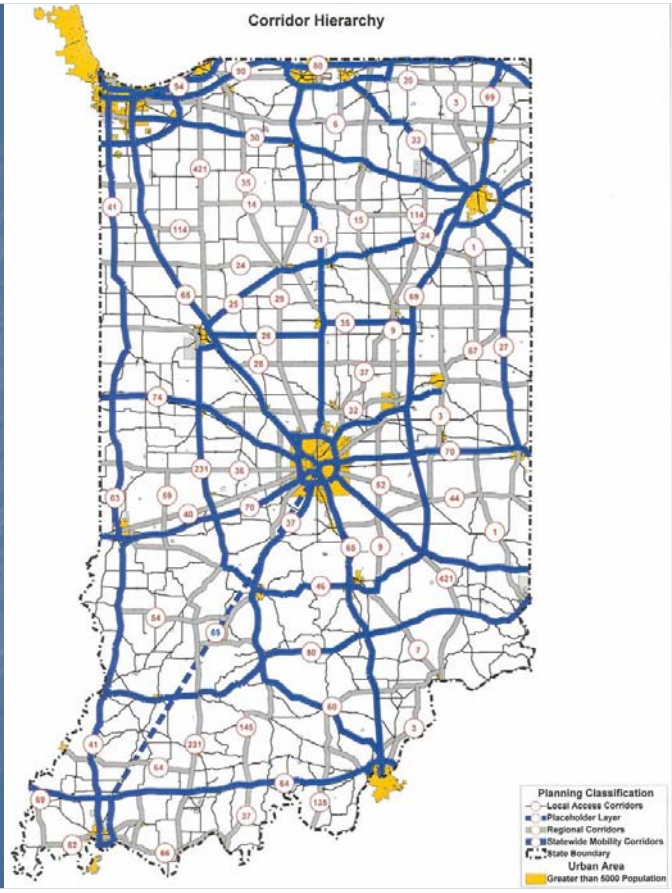
- Roadway functional classification
  - Role of the roadway in the transportation system
  - Arterial, collector, etc.
- Roadway design characteristics
  - Geometric features (median)
  - Speed
- Degree of urbanization
  - Development intensity
  - Intersection frequency

Draft Access Classification System for INDOT

- Based on experience from throughout the country and tailored to Indiana's needs
- Incorporates features from:
  - INDOT 25-Year Plan – Mobility Corridor Concept
  - INDOT Roadway Design Manual – Areas Types
  - INDOT Driveway Permit Manual – Driveway Types

INDOT Mobility Corridor Concept

- Statewide Mobility Corridors
- Regional Corridors
- Sub-Regional Corridors



Overview of INDOT Access Classification System

Access Category	Type	Cross-Section	At-grade intersections	Commercial Major Driveways	Other Driveways
Interstate Highways and Freeways					
Tier 1: Statewide Mobility Corridors	A	Multi-Lane			
	B	2-lane			
Tier 2: Regional Corridors	A	Multi-lane			
	B	2-lane			
Tier 3: Sub-Regional Corridors	A	Multi-lane			
	B	2-lane			
Special Transportation Areas (STAs)					

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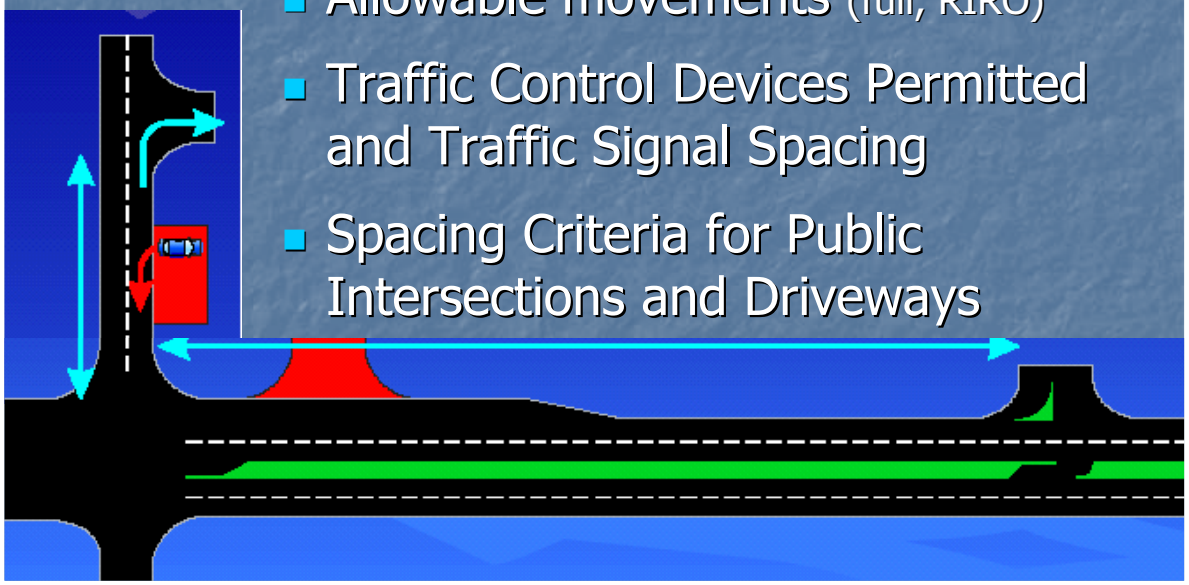
Access Spacing and Design Criteria

- Type of Access permitted (public intersections only or driveways by classification)
- Allowable movements (full, RIRO)
- Traffic Control Devices Permitted and Traffic Signal Spacing
- Spacing Criteria for Public Intersections and Driveways



Provisions in Driveway Permit Manual: Number of Driveways

- Number of driveways should be a minimum to adequately serve the needs of the abutting property
- Access should be limited to a single driveway per property unless frontage exceeds 400 feet
- Commercial developments on the corner of a state arterial and state collector should be restricted to access on the collector only

Refine Access Spacing and Design Criteria

- Apply spacing guidelines for unsignalized intersections:

Highway Speed (mph)	Minimum Spacing (feet)	
	INDOT Permit Manual	Revised AASHTO*
30	185	200
35	245	250
40	300	305
45	350	360
50	395	425
55	435	495

*Based on Stopping Sight Distance (2004)

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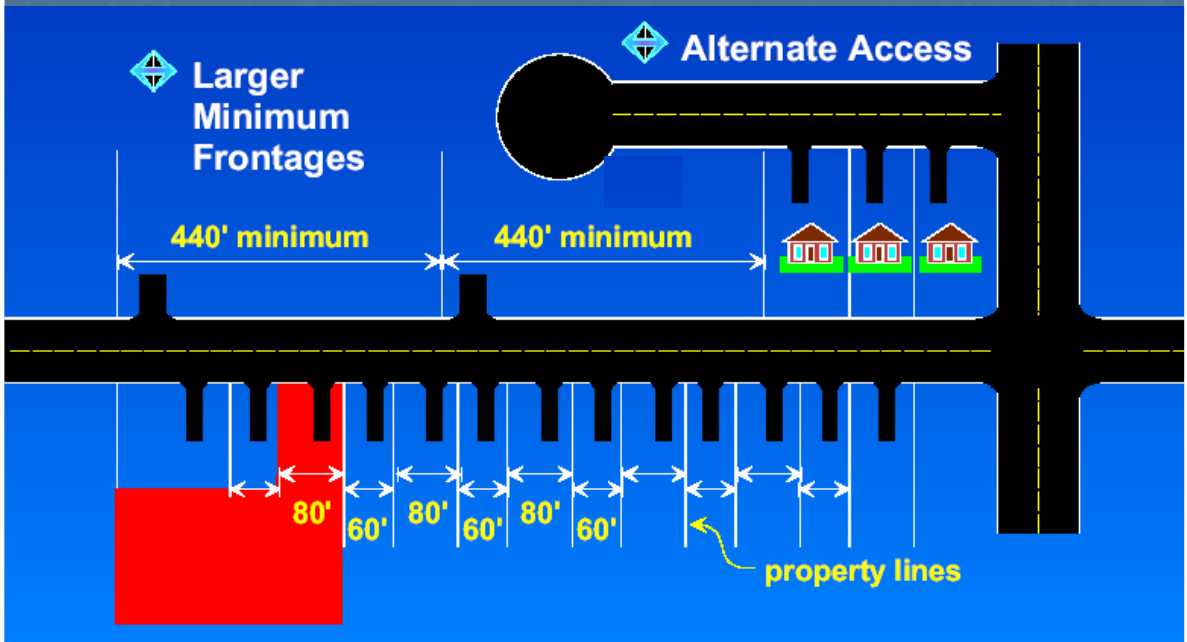
Improve Local Coordination

- Rezoning actions and land use approvals
- Residential subdivisions
- Commercial developments
- Site plan review
- Other intergovernmental coordination

Model Ordinances

- Land use actions generally beyond the direct control of INDOT
- Ordinance provides guidance to local governments
- Tool to help implement access management on the local level
- Indiana Adaptations of KYTC and MDOT Model Ordinances

Improved Subdivision Regulations



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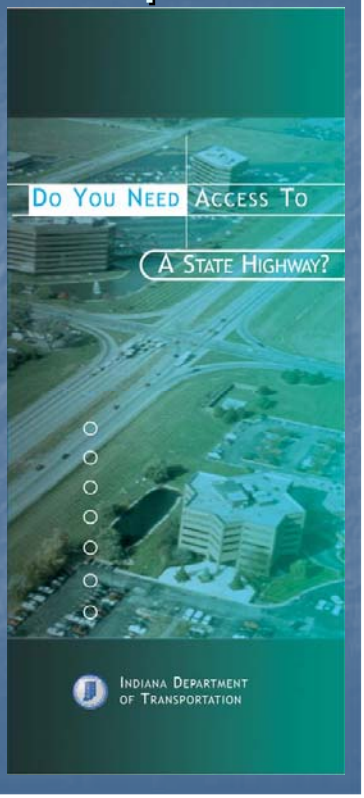
Training/Education

- Training for INDOT staff
- Educational efforts for other stakeholders

Educational Brochures and Pamphlets

- Do You Need Access to a State Highway?
- INDOT and Your Community: Partners in Access Management
  - What is Access Management?
  - Why do it? Benefits?
  - "10 Ways to Manage Access"
  - Web-links
  - Contact information for INDOT District Offices



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Potential for Retrofit?

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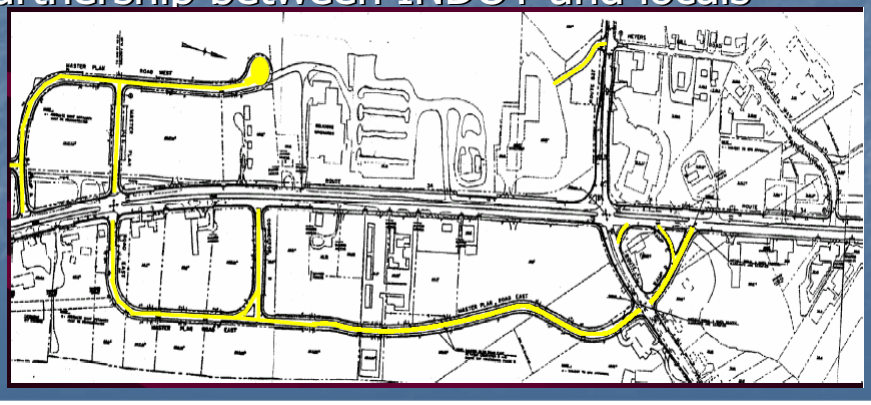
Prepare Access Management Plans

- Corridor-specific plans focused on high-priority problem areas (existing or potential future)
- Could be prepared for both developing areas and retrofit situations, although expected outcomes would be different
- Partnership between INDOT and locals



Purchase Access Rights

- The purchase of access rights helps INDOT manage access
- Focus on high-priority corridors
- INDOT has had projects to purchase rights in the past

Prioritize Projects with Access Management Benefits

- Consider access management benefits as a factor when prioritizing projects
- Similar to IPOC Scoring Criteria
- Reconstruction and Safety & Mobility Projects
- Prioritization could be both from funding or timing perspective

INDOT Recommended Implementation Process

- Define internal organizational structure, and establish roles and responsibilities
- Phase 2 SPR Study for Corridor Level Access Management Plans and implementation support
- Form Implementation Team at INDOT
- Form Access Management Task Force

For more information…

Access management website:
http://www.accessmanagement.gov/

Indiana Access Management Study:
http://www.in.gov/dot/div/planning/iams/

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