Kentucky Access Management Program

Overview and Status Briefing
June 2, 2006
Access Management vs. Permitting

Philosophy

- **AM** – Allowed access based on highway functional purpose.
- **P** – Allows access for convenience of property owner. Access by Permit negates functional hierarchy of highway system - treats all roads as access roads.

Practice

- **AM** – Comprehensive statewide approach based on classification system and associated standards; assures consistency.
- **P** – Case-by-case consideration subject to general guidelines; consistency often lacking.
Why Access Management for Kentucky?

✧ AM supports KYTC’s Vision
  ■ Provide a safe and reliable transportation system supporting Kentucky’s future economic growth, national competitiveness, and overall quality of life

✧ AM supports KYTC’s Goals
  ■ We commit to maintain and operate a safe, efficient and sound transportation system
    • Preserve the transportation infrastructure
    • Improve transportation safety
    • Improve traffic flow

✧ AM saves highway improvement dollars
  ■ Preserves function & capacity; extends useful life of highways
Brief History

- KYTC sponsored AM study by KTC July02
- Study completed Feb04
  - Access Management for Kentucky report
- Executive Briefings Oct03, Mar04, Jan05, Oct05, Mar06
- Implementation Task Force created May04
  - Multi-disciplinary (12 KYTC + KTC + FHWA)
  - Monthly meeting schedule (14 meetings)
Implementation Process Overview

- Completed Task Force activities
  - Finalized recommended AM standards
  - Developed and tested classification procedures
  - Outlined variance/appeal process and rules
Implementation Process Overview

- Current Task Force activities
  - Additional research to quantify benefits of program
  - Complete classification system statewide
  - Develop program documentation
Implementation Process Overview

- Future steps (timing uncertain)
  - Organizational structure - roles/responsibilities
  - Develop/process Administrative Regulation
  - Public outreach
  - Training
Access Management

Classification System
Classification System - Review

Why
- Mechanism for basing allowable access on highway function
- Access standards vary by classification

What
- New classification system for all state routes
- 4 urban, 4 rural classes for non-freeway facilities
- Based on intended function – traffic flow vs. land access
- Recorded in Cabinet databases and GIS maps

How
- Preliminary based on functional class, ADT, and posted speed
- Refine based on manual review & consideration of other factors
## Classification System – Preliminary Results

<table>
<thead>
<tr>
<th></th>
<th>Miles</th>
<th>% R/U</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural I</td>
<td>2,210</td>
<td>9.2%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Rural II</td>
<td>3,056</td>
<td>12.8%</td>
<td>11.7%</td>
</tr>
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<td>Rural III</td>
<td>13,201</td>
<td>55.2%</td>
<td>50.7%</td>
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<tr>
<td>Rural IV</td>
<td>5,430</td>
<td>22.7%</td>
<td>20.9%</td>
</tr>
<tr>
<td>Total</td>
<td>23,897</td>
<td>100.0%</td>
<td>-</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th></th>
<th>Miles</th>
<th>% R/U</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban I</td>
<td>898</td>
<td>41.9%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Urban II</td>
<td>686</td>
<td>32.0%</td>
<td>2.6%</td>
</tr>
<tr>
<td>Urban III</td>
<td>410</td>
<td>19.1%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Urban IV</td>
<td>150</td>
<td>7.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Total</td>
<td>2,144</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Classification System – Current Status

- Manual review/refinement process
  - Data lists, GIS maps for each county
  - Guidelines
  - Training for District planning, permits, traffic, design functions
  - Incorporate final results in HIS

- Develop process for classification revisions
Access Management

Recommended Standards
Access Management Standards - Process

- Initial standards proposed by KTC study
- Extensive discussion of each standard
- Incorporated practical experiences
- Incorporated new research findings
- Innovative approaches tailored to KY needs
- Cyclical process of refinement

- Standards selected represent compromise between engineering principles and property access needs
Access Management Standards - Overview

- Recommended Standards developed for:
  - Interchange spacing
  - Signalized intersection spacing
  - Median type
  - Median opening spacing
  - Unsignalized intersection spacing (includes driveways)
  - Corner clearance
  - Interchange area access

- Sight distance also considered in determining access location
Recommended Standards: Interchange Spacing

- Adopted AASHTO Interstate Policy
- Rural – 3 miles
- Urban – 1 mile
Recommended Standards:
Signalized Intersection Spacing

- Most critical control for traffic flow
- Large degree of consistency between states
- Range: 1,200 – 2,400 feet
## Recommended Standards: Signalized Intersection Spacing

<table>
<thead>
<tr>
<th>Access Class</th>
<th>Typical FC</th>
<th>Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban I</td>
<td>Principal Arterial</td>
<td>2,400</td>
</tr>
<tr>
<td>Urban II</td>
<td>Minor Arterial</td>
<td>2,400</td>
</tr>
<tr>
<td>Urban III</td>
<td>Collector</td>
<td>1,200</td>
</tr>
<tr>
<td>Urban IV</td>
<td>Local</td>
<td>1,200</td>
</tr>
<tr>
<td>Rural I</td>
<td>Principal Arterial</td>
<td>2,400</td>
</tr>
<tr>
<td>Rural II</td>
<td>Minor Arterial</td>
<td>2,400</td>
</tr>
<tr>
<td>Rural III</td>
<td>Collector</td>
<td>1,800</td>
</tr>
<tr>
<td>Rural IV</td>
<td>Local</td>
<td>1,200</td>
</tr>
</tbody>
</table>
Recommended Standards: Nontraversable Medians & Median Openings - Conclusions

♦ The design and placement of nontraversable medians and median openings should become an integral part of KY’s access management practice.

♦ Median openings should be thought of as a traffic control device and should receive as much care regarding use and location as other traffic control devices.

♦ Access management strategies that increase U-turn volumes at intersections and median openings can be applied safely and effectively.
Recommended Standards: Median Type Guidelines - TWLTL

TWLTL generally appropriate for:

- **Urban/suburban 2-lane roadways with:**
  - projected ADT < 17,000
  - access point density > 10 ap/mi and < 85 ap/mi
  - left-turn volume < 150 vph

- **Urban/suburban multi-lane with:**
  - projected ADT < 24,000
  - access point density > 10 ap/mi and < 85 ap/mi
  - left-turn volume < 100 vph
Recommended Standards:
Median Type Guidelines – Nontraversable Median

Nontraversable median recommended for:

- All new multilane arterials
- Existing roadways where ADT, access density, or turning volumes exceed TWLTL thresholds
- Existing rural multilane arterials
- Crossroads in the vicinity of interchanges
- Multilane roadways with high pedestrian activity
Recommended Standards:
Median Opening Spacing

<table>
<thead>
<tr>
<th>Access Class</th>
<th>Full Median</th>
<th>Directional Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban I</td>
<td>2,400</td>
<td>1,200</td>
</tr>
<tr>
<td>Urban II</td>
<td>2,400/1,200*</td>
<td>1,200/600*</td>
</tr>
<tr>
<td>Urban III</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>Urban IV</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Rural I</td>
<td>2,400</td>
<td>1,200</td>
</tr>
<tr>
<td>Rural II</td>
<td>2,400</td>
<td>1,200</td>
</tr>
<tr>
<td>Rural III</td>
<td>900</td>
<td>450</td>
</tr>
<tr>
<td>Rural IV</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

* Larger value applies to routes with 85th %-tile speed >45 mph
Recommended Standards: Unsignalized Intersection (Driveway) Spacing

- Make it work for Kentucky

- Departed from common practice
- Incorporated type of access
- Distinguish between types of land use (level of impact)
Recommended Standards: Unsignalized Intersection (Driveway) Spacing

- Allows significantly reduced spacing for negligible impact access

- **Type B Access**
  - Single-family residences
  - Multiple-family residences, 3 units or less
  - Farm/field entrances

- **Type A Access**
  - Commercial access
  - Residential subdivision entrance
  - All other not included in Type B
### Recommended Standards: Unsignalized Intersection (Driveway) Spacing

<table>
<thead>
<tr>
<th>Access Class</th>
<th>Type A Access</th>
<th>Type B Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban I</td>
<td>1,200/600*</td>
<td>300</td>
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<tr>
<td>Urban II</td>
<td>600</td>
<td>150</td>
</tr>
<tr>
<td>Urban III</td>
<td>300</td>
<td>150</td>
</tr>
<tr>
<td>Urban IV</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>Rural I</td>
<td>1,200</td>
<td>300</td>
</tr>
<tr>
<td>Rural II</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>Rural III</td>
<td>450</td>
<td>150</td>
</tr>
<tr>
<td>Rural IV</td>
<td>150</td>
<td>150</td>
</tr>
</tbody>
</table>

* Larger value applies to routes with 85th %-tile speed >45 mph
Restrictions/Notes for Type B Access

- All other standards will apply according to the roadway classification.
- Type B access spacing may be utilized only if alternative reasonable access meeting Type A standards is not feasible.
- Change of land use from that previously permitted under Type B access to that classified as Type A requires a new permit and application of Type A standards.
- Only one access allowed per parcel or contiguous parcels under one ownership. Additional access points allowed only if they meet Type A standards and are deemed necessary for the convenience or welfare of the traveling public.
Restrictions/Notes for Type B Access

- Type B access should not be allowed within the functional area of another intersection. No entrance should be permitted within the limits of a turning lane.
- Type B access shall not be permitted on routes designated as having “Partial Control” access.
- When a median is present, Type B access will be limited to right turns only.
- Unified access using cross access, combined entrances, backage roads and frontage roads is strongly encouraged.
Recommended Standards: Corner Clearance

Same spacing distances as unsignalized intersections with additional requirements to protect functional area of intersection.

- Driveways not permitted within limits of turn lanes
- Driveways not permitted within limits of regularly forming queues
## Recommended Standards: Interchange Area Spacing

<table>
<thead>
<tr>
<th>Access Class</th>
<th>Full Access Intersection</th>
<th>Limited Access Connection</th>
<th>Right-In/Out Only Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban I</td>
<td>2,400</td>
<td>1,200</td>
<td>600</td>
</tr>
<tr>
<td>Urban II</td>
<td>1,800</td>
<td>900</td>
<td>450</td>
</tr>
<tr>
<td>Urban III</td>
<td>1,200</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>Urban IV</td>
<td>1,200</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>Rural I</td>
<td>2,400</td>
<td>1,200</td>
<td>600</td>
</tr>
<tr>
<td>Rural II</td>
<td>1,800</td>
<td>900</td>
<td>450</td>
</tr>
<tr>
<td>Rural III</td>
<td>1,200</td>
<td>600</td>
<td>450</td>
</tr>
<tr>
<td>Rural IV</td>
<td>1,200</td>
<td>600</td>
<td>300</td>
</tr>
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</table>
Non-Conforming Access

- Access that currently exists will frequently not comply with spacing standards
- AM standards not applied retroactively
  - Applied to requests for new access
  - Applied to changes in existing access
  - “Goal” for highway improvement projects
- Pre-existing access impacted only if redevelopment occurs or usage changes
Access Management

Variance/Appeal Process
Variance Process: Why/How?

- Flexibility required in administration of Access Management regulations
  - Unconditional application of minimum standards not appropriate for all cases
  - Topography, roadway features, existing access points and property frontage create constraints
  - Impossible to anticipate and cover all conditions to be encountered
  - Complexities may require alternative treatments

- Build flexibility into program via formal Variance Process rather than weaken standards
Variance Process:
Basic Structure – Two Levels

♦ Minor Variance
  ■ Requests with minor deviation from standard and negligible impact on highway operations
  ■ Basic information and documentation of decision

♦ Major Variance
  ■ Significant deviation from standard and potential for significant impact
  ■ Requires more extensive review and justification
    • Traffic Impact Study - study area determined by size of development and type of access modification
Variance Process: Minor Variance

Criteria
- All Variances involving Type B Access
- Classes I & II: Deviation from standard <= 15%
- Classes III & IV: Deviation from standard <= 25%
- Trips generated < 100 vph for peak hour
- No alteration of traffic signal control on adjacent roadway

Burden of Proof
- Adequate sight distance
- There are no reasonable engineering or construction alternatives to provide access to the site which meet or are in closer compliance to the standard.
Variance Process: Major Variance

- Criteria
  - Requests for deviation from standards that do not meet criteria for minor variance

- Burden of Proof
  - Adequate sight distance
  - No reasonable engineering/construction alternatives
  - Traffic Impact Study
    - Traffic operations and safety will not be degraded to unacceptable level by proposed development & access plan
    - Level of safety/operational performance comparable to that provided with full adherence to AM standards
    - Mitigation improvements
Implementation Strategy - Next Steps

- Implement incrementally
  - Implement elements of proposed program
    - Completion of Access Management Classification System
    - Median Policy
  - Identify aspects of program that can be implemented by Cabinet policy rather than Admin Regulation
    - Design policy incorporating AM standards as alternative
    - Permitting policy prescribing coordination with local P&Z

- Pursue access management retrofit projects
  - Several studies underway

- Encourage local initiatives
Questions ?

Discussion ?
Class Characteristics – Class I

- **Defining Attribute**
  - High priority for traffic flow over property access

- **Typical Characteristics**
  - High traffic volume (current or future)
  - High to moderate speed desired
  - Relatively long trip lengths
Class Characteristics – Class II

- Defining Attribute
  - Moderate priority for traffic flow

- Typical Characteristics
  - Average to high traffic volume
  - Moderate to high speed
  - Intermediate trip lengths
Class Characteristics – Class III

- **Defining Attribute**
  - Equal priority for traffic flow and access

- **Typical Characteristics**
  - Moderate - low traffic volume
  - Moderate speed
  - Relatively short distance travel
Class Characteristics – Class IV

- **Defining Attribute**
  - High priority for property access over traffic flow

- **Typical Characteristics**
  - Low traffic volume
  - Low to moderate speed
  - Short travel distance to access higher class routes