


SUSTAINABLE LEGACY: LINKING LAND USE AND TRANSPORTATION


Presented by:
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For the ITE Great Lakes District Annual Meeting, Dearborn, MI – 6/12/09



Royal Oak | Grand Rapids | Indianapolis

The world of transportation is changing . . .

- Key organizing themes of U.S. Transportation Policy
 - ▣ Economic recovery
 - ▣ Safety
 - ▣ Alternatives to driving
 - ▣ Mobility for increasing senior population
 - ▣ **Livable and sustainable communities**



U.S. Transportation Secretary LaHood, address to Senate Committee, April 28, 2009

Great Lakes States: At a crossroads...

- Aging infrastructure
- **Key vacant properties in communities**
- Shifting policies
- Limited resources
- Evolving population traits
- Changing economic bases
- Reduced traffic volumes



How big is 750,000 square feet?
The newest Livestock Stadium in Allen Park would be big enough to include all of Cedar Canyon's existing space. Find other comparable properties at right.

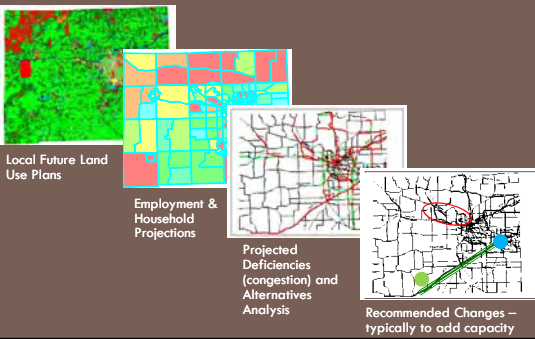
Facility	Square Footage
NEW MOVIE AND TV STUDIO	750,000 square feet
COBO EXHIBIT SPACE	400,000 square feet
SIKIZING IT UP Facility	3,4 million
Sheraton Conference	477,000
Detroit-Hochschild of Arts	306,000
MACM Grand Detroit Casino	306,000

What will your legacy be?

- Vibrant liveable communities
- Options for all users
- **Reduced emissions**
- **National security**
- Fewer crashes
- Economically viable communities
- Healthier population

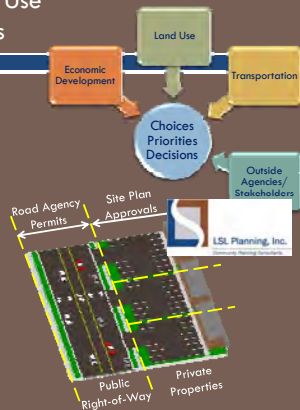


Long Range Transportation Plans



Transportation – Land Use Decision-Making Gaps

- Many players: different agencies or departments
- Different educational background
- Different time horizons
- **Assumes land use plan is accurate**
- Separate planning processes
- Funding
- Public interest & politics
- Status quo is not working



A New Paradigm: Sustainable Transportation

- Integrated rather than separate uses
- Transportation for all users
- Fit context, harmonize
- Land use arrangement to reduce peak hour single occupant auto trips
- Transportation investments as catalyst for economic development

EXISTING MODEL

INNOVATIVE MODEL

USL Planning, Inc.

Benefits of New Transportation Approach

- Health
 - greener communities
 - lower emissions
 - more walking & biking, less pollution
- Safety
 - fewer crashes
 - lower auto speeds where appropriate
- Welfare/Economics
 - cost effective decisions
 - provide transportation options – position an area for growth
 - stimulate desired development
- **Better communities**

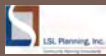
Overview: Sustainable Transportation and Land Use Techniques

- Long range planning
- Connectivity
- Community density and design (TOD/PFD)
- **Innovative modeling**
- Complete Streets & Nested Networks/Typologies
- Street design
- Business & community vitality
- Access management
- Form-based codes

Street Connectivity Example



Street Connectivity Index



- Reduces burden on arterials
- Improves emergency response
- Reduces VMT and emissions
- Provides access options

VDOT Connectivity Standards

- Compact – 1.6
- Suburban – 1.4
- Rural – minimum 1 connection



Making Places Walkable & Bikeable

- Locate schools where kids can walk - safe routes to school
- Buildings closer to street
- Limit driveway conflicts
- Continuous bicycling and walking paths, amenities
- Balance pedestrian and auto Levels of Service (LOS)



Transit Oriented Development (TOD)

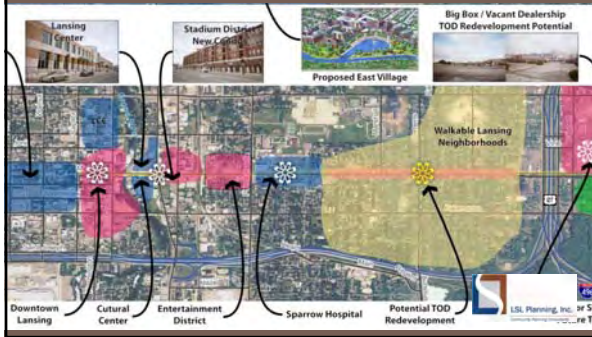
Goal: Increased transit ridership and private sector return on transit investment

- Usually higher density, taller buildings
- A mix of uses regulated with incentives
- 5 minute walk zones
- Buildings oriented to sidewalk
- Reduced parking
- Park and Ride at certain locations



Vision Metcalf, Overland Park, KS

Transit Oriented Development (TOD)



Innovative Modeling

- Movement toward activity based models
- Challenges – data, cost
- Reduce trips out of the TAZ (external trips) through mixed use and connectivity



Land use design (with same density) can impact trip distribution

Transportation Traffic Impact Studies

- Evaluate all modes (autos, biking, walking, transit)
- Set minimum LOS standards for each (e.g. LOS C for pedestrians, LOS E for vehicles)
- Adjust development to mitigate impacts & improve performance
- Incentives for other modes



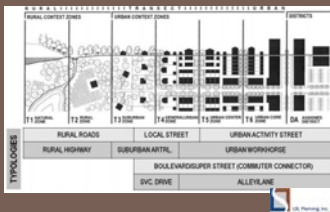
Design for all Users: "Complete Streets"

- Context Sensitive Solutions
- Harmonize vehicles and other modes/adjacent land uses
- Consider impacts other than only auto traffic operations



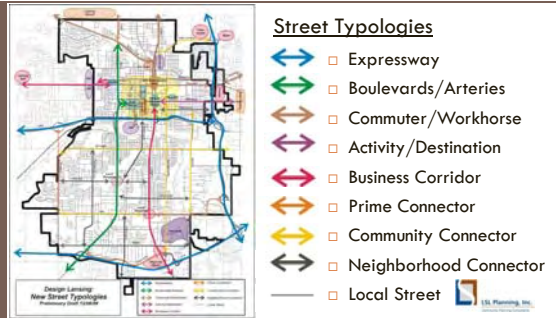
New Network Typologies

- Traditional Functional classification based on character of service
- New (nested) network/ based on wider scope:
 - Function of street
 - Street width
 - Streetscape
 - Relationship to land use and form
 - Non-motorized transportation/transit
- Quality of travel by street by mode

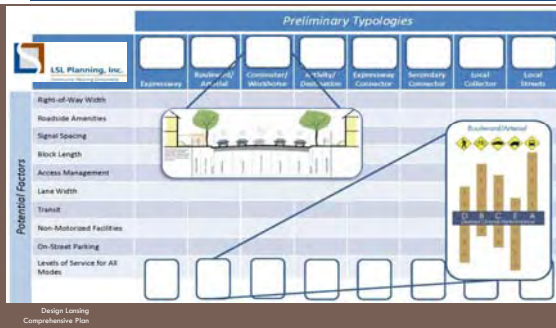


See upcoming ITE Recommended Practice

Case Study: Design Lansing



Case Study: Design Lansing



Different Treatments

- Road diet
- Roundabout
- Streetscape
- Traffic calming
- Non motorized crossing
- Narrow median
- Boulevard & "Super Street"
- "Green" design elements



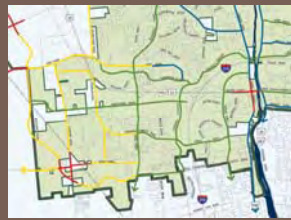
Green Street Design

- Variable cross sections match context
- Stormwater/runoff (rain gardens, bioswales)
- Pervious pavement/parking
- Landscape/Streetscape
- Materials (recycled, solar, LED lights/signals)



Corridor/Subarea Planning

- Traffic Operations (LOS)
- Non-motorized
- Transit
- Land use/form
- Access systems
- Road & streetscape design
- Parking
- Regulations & programming/funding to implement recommendations



Map 4.11 Roadway Character

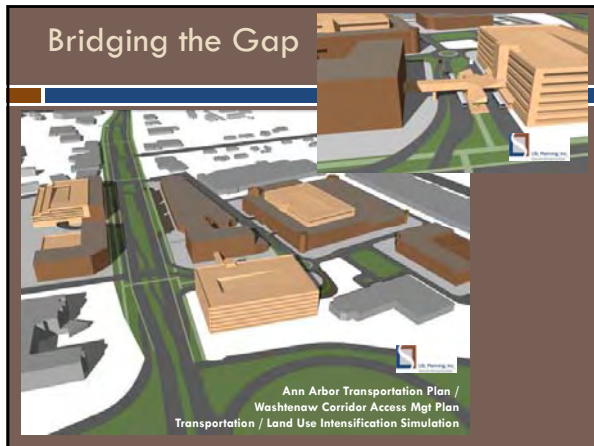
Dublin, OH Comp Plan

Transportation to Preserve/Ignite Business Vitality

- Circulation
- On-street parking
- Wayfinding
- Pedestrian amenities
- Appropriate speeds
- Road & streetscape redesign



City of Crown Point, IN
Downtown Parking & Circulation Study



Creating a Sustainable Land Use & Transportation System

- Review current policies & standards
- Inform decision makers**
- Identify ways to integrate decision-making
- Establish benchmarks to evaluate performance
- Invest in all modes (overall)
- Remember maintenance costs too

Bluffton, SC
Street Classification

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