3.1.2 Illiana Reduces Wasted Time and Congestion

As early as 2003, there was a broad recognition that in order to address the present and future capacity needs to transport goods this nation needs a multimodal freight transportation system.\(^3\) Depending on the alignment, Illiana will cross the mainlines of most Class I railroads in Chicago including CSX, Norfolk Southern, Union Pacific, and CN (Figure 11). It is a distinct possibility that Illiana will be used by the railroads to

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exchange cargo. If that were to happen, the volume of freight coming into the congested rail system in Chicago as well as overall intra-regional truck traffic congestion will be reduced.

3.1.3 Illiana Saves Energy

By attracting employment to balance jobs with housing the residents’ commute time and distance will be reduced. This will result in a reduction in gasoline consumption. Further reductions in fuel consumption could be achieved by a more efficient flow of truck traffic. The proposed Illiana Expressway is well positioned to facilitate such energy savings.

3.1.4 Illiana Improves Air Quality

Illiana will be a catalyst in reducing vehicle miles traveled, gasoline consumption and reduced congestion. This will result in fewer auto emissions and improved air quality.

3.1.5 Illiana Improves Safety by Taking Trucks off Local Roads

Some of the arterials in Will County already experience heavy truck traffic for their class. Laraway Road (County Highway 74), for example, is a 2-lane road that runs approximately 2 miles south of I-80. The data compiled by CMAP\(^4\) show that there have been several accidents, some of them fatal, involving tractor-trailers on local arterials. Many of these serious accidents seem to have occurred in the general corridor considered for the Illiana Expressway along the southern boundary of the county. A traffic count taken in November of 2009 showed that of the 7430 vehicles counted during a 24-hour time period, 12.7% or 944 were heavy vehicles, of which 523 were multi-unit trucks. Other arterials in Will County carry a high volume of heavy vehicles for their class (Figure 12).

Figure 12
2007 Heavy Vehicle Volumes

Source: CMAP
CMAP is currently developing a freight plan for the region. The recommended capital projects include the Illiana Expressway as well as improvements to the arterials. As the employment in the county increases, truck traffic will increase further. According to CMAP, most parts of Will County will experience more than 100% growth in freight truck traffic between 2007 and 2040. The Illiana Expressway will help consolidate truck traffic that will otherwise use local arterials, thereby improving the livability for the residents of Will County.

Importantly, fatality rates on urban interstates are proportionately lower compared to other types of roads. Indeed national data seem to indicate that rural collectors have almost four times the fatality rate of urban interstates (Figure 13). The Illiana expressway is therefore expected to reduce the number of serious road accidents that are currently occurring in the local rural and urban network in the corridor.

![Figure 13](http://safety.fhwa.dot.gov/speedmgmt/data_facts/docs/fataltbl2007.pdf)

### 2007 Fatality Rates by Road Classification
(per 100 million Vehicle Miles Traveled)
U – Urban, R – Rural

3.1.6 Illiana Implements ITS ‘Smart’ Highway

Intelligent Transportation Systems (ITS) apply well-established technologies of communications, control, electronics and computer hardware and software to the surface transportation system in order to improve safety, reduce congestion, increase and provide higher quality mobility, reduced environmental impact, improved energy efficiency, and improve economic productivity (Figure 14). The construction of the new
Illiana expressway offers a unique opportunity to implement a host of ITS user services with numerous functionalities.

Figure 14
Functionalities of a Smart Highway

Travel and traffic management user services, for example, will offer pre-trip travel information, en-route driver information, route guidance, ride matching and reservation traveler services information, traffic control, incident management, travel demand management, emissions testing and mitigation, and highway-rail intersection monitoring. Additional public transportation management user services will offer public transportation management, en-route transit information, personalized public transit, and public travel security.
Moreover, electronic payment services can provide travelers with a common electronic payment medium for all transportation modes and services (e.g., parking lots, tollways, congestion pricing), ease passenger transfers among bus, rapid transit, and commuter rail systems and can be integrated with credit and debit cards and other financial transactions. In addition, commercial vehicle-operations, user services can offer commercial vehicle electronic clearance, automated roadside safety inspection, on-board safety and security monitoring, commercial vehicle administrative process, hazardous materials security and incident response, and freight mobility.

Illiana can also implement emergency management user services for emergency notification and personal security, emergency vehicle management, and disaster response and evacuation. Finally, maintenance and construction management user services will monitor/track vehicle location, support enhanced routing, scheduling, and dispatching functions, and use on-board diagnostic systems to assist in vehicle operation and maintenance activities as well as monitor traffic, road surface, and weather conditions, perform hazardous road conditions remediation, and have the ability to alert of changes in these conditions.

It is possible that Illiana will become a test bed for the convergence, integration and deployment of such ITS technologies to improve transportation safety, relieve congestion, and enhance productivity in the corridor.

3.2 Illiana Establishes Process to Protect Environment and Incorporate Local Input

The Illiana Expressway will establish a process to protect the environment and incorporate local input (Figure 15). Environmental teams will need to successfully address issues such as wetland mitigation, species migration and research, regional multi-use trail connections as well as identify new ways to coordinate and communicate issues along the corridor.

Experiences from other similar projects in the region could be very helpful in this regard. During the I-355 south extension, for example, environmental team building was achieved by: (1) requesting key agency staff to be assigned to various projects, (2) developing a flexible project schedule, (3) clearly explaining the project’s objectives to stakeholders, (4) coordinating early and often, (5) highlighting project’s uncertainty regarding budgets, schedules, etc., (6) listening to agency concerns and working to address them, (7) visualize the project during frequent field visits, (8) demonstrating system-wide and project-wide stewardship, and (9) trying new avoidance, mitigation and protection techniques5.

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5 La Porte, A. Integrating Environmental Concerns with the Planning and Construction of the South Extension of Interstate 355 into Will County Illinois. ISTHA, private communication February 2010.
3.3 Illiana Utilizes Context Sensitive Solutions

IDOT mission is “to provide cost-effective transportation in Illinois in ways that enhance quality of life, promote economic prosperity and demonstrate respect for our environment”. The Illiana construction will reflect surroundings, or “context”, obtain input from stakeholders, address local concerns, seek multimodal solutions, and improve safety and mobility (Source: CSS Guide, IDOT, http://www.dot.state.il.us/css/cssguide.pdf - accessed April 2010).

Context Sensitive Solutions (CSS) principles applied to the planning and design of transportation projects facilitate the successful completion of such projects by addressing real or perceived incompatibility with surroundings; community impacts; emphasis on mobility without consideration of other community values; disproportionate spread of benefits or impacts (environmental justice); and lack of stakeholder education and participation throughout the planning and design processes.

Common tenets of CSS solutions include:
(1) Balance safety, mobility, community and environmental goals in all projects;
(2) Involve the public and stakeholders early and continuously throughout the planning and project development process;
(3) Use an interdisciplinary team tailored to project needs;
(4) Address all modes of travel; and
(5) Apply flexibility inherent in design standards; and Incorporate aesthetics as an integral part of good design.

4.0 ISSUE 3: STRATEGIES TO ENHANCE SOCIAL WELL-BEING

4.1 Illiana Engages Communities and Stakeholders

The process for planning the Illiana Expressway will engage communities and stakeholders to address various issues and concerns, such as the impact on property owners, land use and other impacts regarding construction of the new facility (Figure 16). Municipalities and townships within the affected corridor of the Illiana facility will be invited to participate.

Stakeholders within the Illiana corridor would address several issues regarding smart growth:

- **Spatial distribution of affordable housing**: Given the right economic conditions, the Illiana corridor will likely attract new development in fast growing areas where jobs will be increasingly concentrated.

- **Adapt to regional diversity**: Illiana will traverse numerous localities in the Chicago metropolitan area, each one vested with the power to make critical decisions over land use, zoning and taxation. Eventual differences in growth patterns, governmental fragmentation and political organization will set the basic context for smart growth responses and, by necessity, will require different approaches.

- **Growth management**: Emphasis could be given to land-use coordination on the local, county and regional levels by granting funding priority to localities that plan collaboratively so that localities could transfer development rights within and between municipalities to where development is desired.

![Figure 16 Stakeholders Input](image)
4.2 Illiana Develops High Density, Multi-use and Infill around Transportation Facilities

Communities within the Illiana corridor will be encouraged to develop comprehensive plans for land use around transportation focal points (stations, terminals, etc.). For example, the Metra STAR Line Land Use Study met with communities in south Cook and west Will counties to develop comprehensive plans around the proposed stations. Local communities developed three concept plans (one of which is shown in Figure 17) with different densities, residential and commercial mixes. In most cases, plans included significant multi-family, town homes and higher density than typical suburban development. It is envisioned that a similar process would obtain municipal input into the zoning and design of the growth resulting from the infrastructure investment.

Figure 17
Concept C 18 single family, 692 townhomes and 880 multi-family units
4.3 Illiana: Potential (or prospects) for Transit-oriented Development and Traditional Neighborhood Design

Given the availability of open land at and in close proximity to many of the new and proposed Metra stations a development analogous to Prairie Crossing may be practical (Figure 18). Prairie Crossing is located in Lake County at a unique nexus where two Metra lines meet with two stations, one on each line.

![Figure 18: Prairie Crossings: Transit-oriented Development](image)

On their web site Prairie Crossings is described as a “conservation community…. was designed to combine the preservation of open land, easy commuting by rail, and responsible development practices. It is now considered a national example of how to plan our communities to enhance the environment and support a better way of life.”

It is characterized by large tracts of open land with numerous retention ponds and small lakes. There are large playgrounds and places for outdoors activity. It has many trails that encourage active living.

The focal point of the community is the retailing complex on Illinois 137. Across the highway is the Milwaukee Road Metra Station (Figure 18). The retail complex has housing on the top two floors and ample parking. There is a day care center and a restaurant, the types of facilities that relate to commuters.
The Prairie Crossing concept could potentially be repeated at either or both Manhattan and Laraway Road Metra Stations on the Southwest Service.

4.4 Illiana Shapes Development by Targeting Interchanges for Industrial and Office Uses

As employment in Will County grows, interchanges between Illiana and major north-south highways are expected to attract employment centers that need highway access. The Exxon/Mobil refinery near Joliet (Figure 19) is one such example.

![Exxon Mobil Refinery: Joliet](image)

This does not preclude employment activity elsewhere in the county such as the Operating Engineers facility near Symerton. Like other major employers it is some distance from residential neighborhoods in places where ample land is available for expansion.

![Operating Engineers Building near Symerton](image)

An improved highway network that leads to growth in the local economy can also bring higher wages for workers, greater net income for owners of local businesses and increased taxes to municipalities. It is expected that economic activity will migrate to Will County in response to its improved transportation infrastructure as with the new roads that are planned to service the new intermodal facilities at the former arsenal, both the BNSF Logistics Park and the CenterPoint Intermodal Center (Figure 21).
4.5 Illiana Develops Multi-modal Transportation Alternatives

As seen earlier, the Illiana offers opportunities to develop multi-modal transportation alternatives. Four proposed Metra improvements will provide commuter rail alternatives. Likewise, park-and-ride lots located at expressway interchanges will promote ridesharing and carpooling. Additionally, walking paths and bicycle trails can provide a healthful alternative mode of travel.

Pace Route 511 between downtown Joliet and the Arsenal Development provides service to the BNSF Intermodal yard and CenterPoint Development, and also passes the Elwood city hall (Figure 22). This route would intersect the Illiana corridor and provide an opportunity to develop a multi-modal connection. Several of the routes in south and west Joliet may also have potential for an Illiana connection, depending on the highway alignment and location of interchanges.
In addition, several Pace routes, 358, 362 and 367 serve southern Cook and northern Will County. Extensions of these routes to the Illiana Expressway interchanges would be considered if the demand warranted. Pace also provides van pools for large employers as an incentive to reduce single occupant auto use.

4.6 Illiana Improves Mobility to Residents

Illiana will enhance the mobility of Will County residents as well as residents from other areas to major destinations such as shopping, education, medical and the Balmoral Park racetrack, Lewis University, the Chicagoland Speedway (Figure 23).
4.7 Illiana Promotes Active, Healthy Living: Walking and Bicycling

One of the communities in Will County that has already developed a commercial district that is pedestrian friendly is Plainfield (Figure 24). The use of brick pavers and street furniture that makes walking and strolling attractive is a key to making pedestrians recognize that the district is intended for their use not just for cars. The use of low barriers, as seen on both photographs below, in Plainfield makes pedestrians feel safer and they realize that this is clearly their space. Trees and other plantings add to the
appeal of this area as well as the stylish lamp posts and traffic signs. These features contribute to an overall aesthetic that is inviting and a pleasant place to linger.

Figure 24
Pedestrian Friendly Plainfield

The livability of neighborhoods can be enhanced by including pedways as part of a development. This encourages physical activity and adds to the aesthetics of the neighborhood. These pedways, when they are sufficiently wide, as in the area near Manhattan (top of Figure 25), may be suitable for bicycling and snow sports in the winter.

Long-distance trails can also add to the livability of Will County. A good example is the Wauponsee Glacial Trail (bottom of Figure 25). It extends over twenty miles from I-80 at the north end to the Illinois River at the south end. Along the way it passes the eastern border of the Midewin National Tallgrass Prairie (former arsenal).

Currently this is the only major trail through this part of Will County. A potential trail along the Illiana Expressway to augment this trail would substantially add to its practicality. With another east-west axis it would substantially add to the trail network. In a graph-theory context the complexity of the trail system would be enhanced by changing it from a mere one route system to one that allows for considerable more exploration and destinations.

In many European settings bicycle trails parallel major highway facilities partly because the acquisition of a modest additional real estate is practical. Seeing the bicycling along the expressway may also be a visual encouragement for motorists to bicycle more frequently.
Figure 25
Walking Paths and Bicycle Trails near Manhattan (top) and Wauponsee Glacial Trail (bottom)
5.0 SUMMARY

Will County will continue its trend of population growth that began decades ago. A key strategy for the future is to attract employment to help the jobs/housing balance. The Illiana Expressway will act as a catalyst to attract employment in the transportation, distribution and light manufacturing industries. Equally important, the Illiana will provide an opportunity to shape the growth to achieve livable communities. It will attract basic employment along the corridor, mainly at interchanges and attract traffic to the expressway that might otherwise use arterials near residential areas.

The Illiana Expressway will support community sustainability and livability in Will County by facilitating the following strategies:

- Promoting a sustainable economy by attracting employment, providing transportation links and shaping employment along the corridor.
- Promoting a sustainable environment by balancing jobs with housing, reducing travel times, wasted time and fuel, improving safety and air quality while protecting the environment.
- Enhancing the social well-being by engaging the community, developing sound transportation and land-use policies, providing multi-modal transportation alternatives that improve mobility and a healthy lifestyle to its residents.

REFERENCES


