



Illinois Department of Transportation

## Eastern Bypass Study

### **BENEFITS AND IMPACTS DATA IN BAR CHART FORM**

This document presents the data from the matrices contained in the Study's Purpose and Need Analysis Report and Corridor Impact Assessment Report in bar chart form.

For each category of benefit or impact, two bar charts are presented.

One organizes the data by the corridor naming sequence.

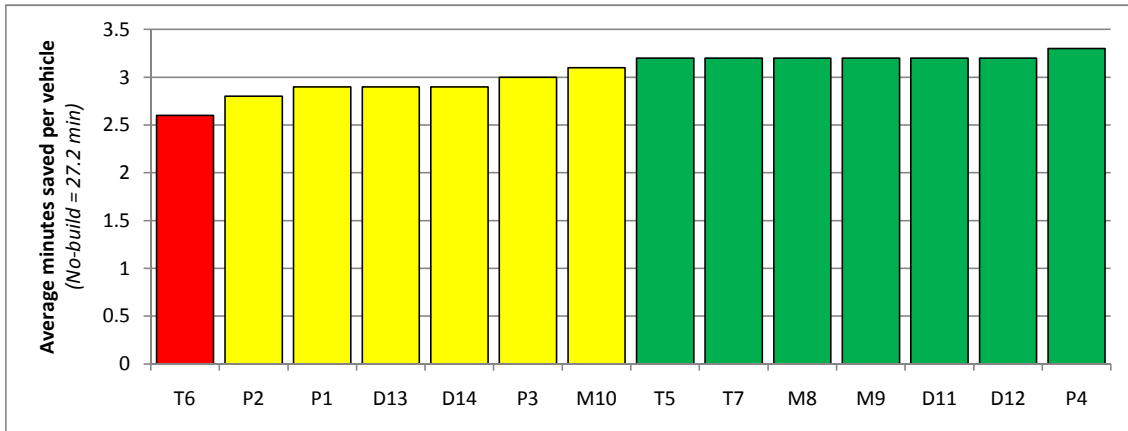
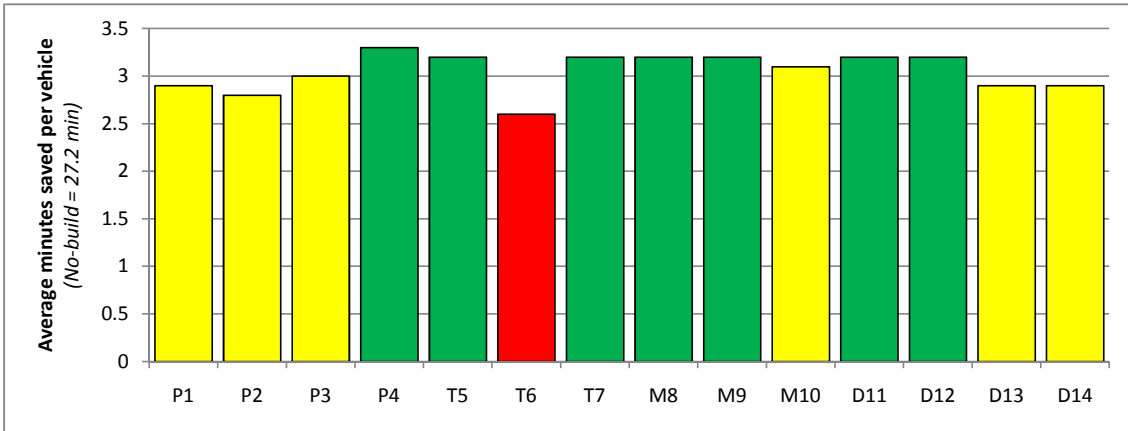
The other organizes the data from low to high benefit or impact.

Illinois Department of Transportation  
District Four

March 16, 2011

## IMPROVING LOCAL AND REGIONAL MOBILITY

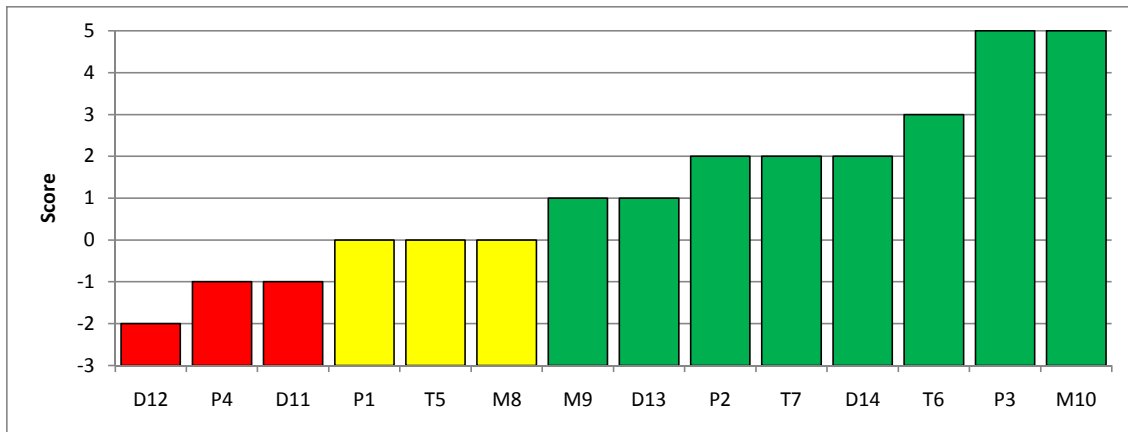
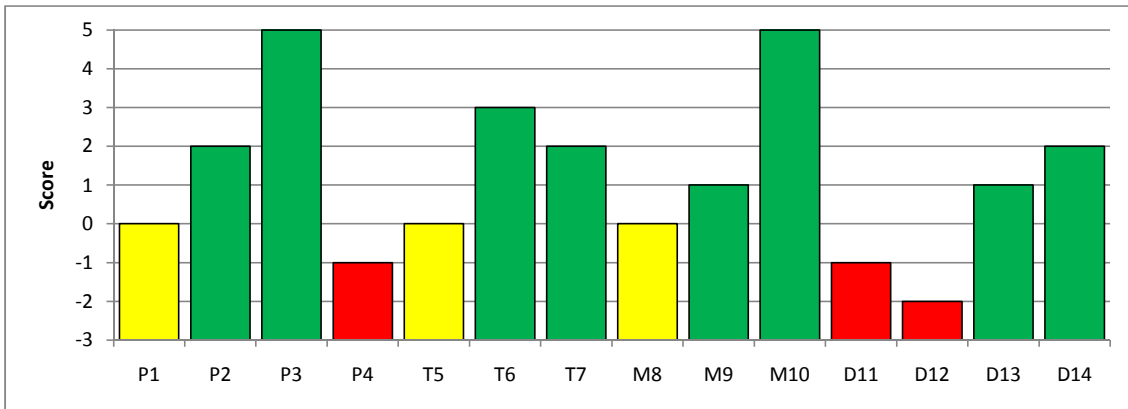
*A reduction in vehicle-miles of travel (VMT) or vehicle-hours of travel (VHT) on various specified roadway links in the study area and regional network, or, an increase in VMT coupled with a reduction in VHT on various links.*



## SUPPORTING LAND USE PLANS AND ECONOMIC DEVELOPMENT PLANS IN THE TRI-COUNTY AREA

*Compatibility with land use and other data contained in currently adopted comprehensive plans, long range plans, or transportation plans prepared by or for the communities in the area; and, compatibility with the conclusions and recommendations of currently adopted economic development plans for the area.*

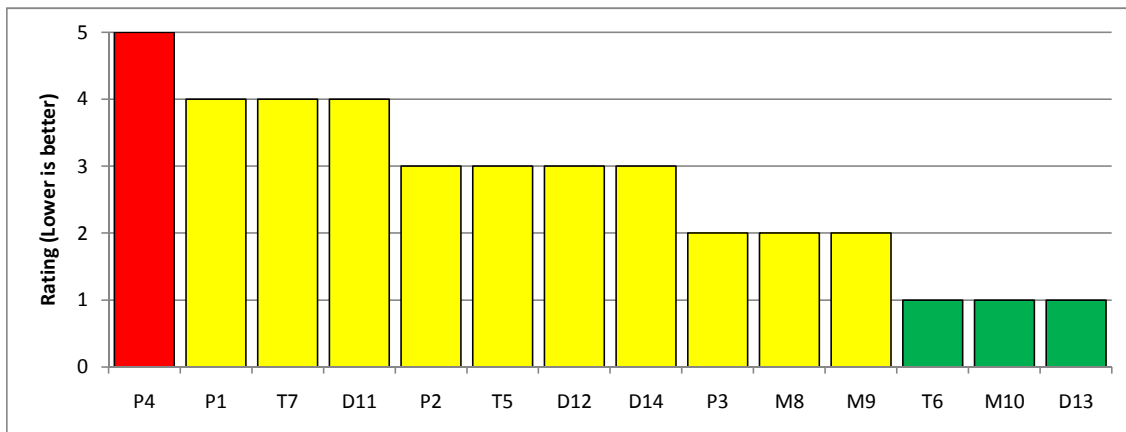
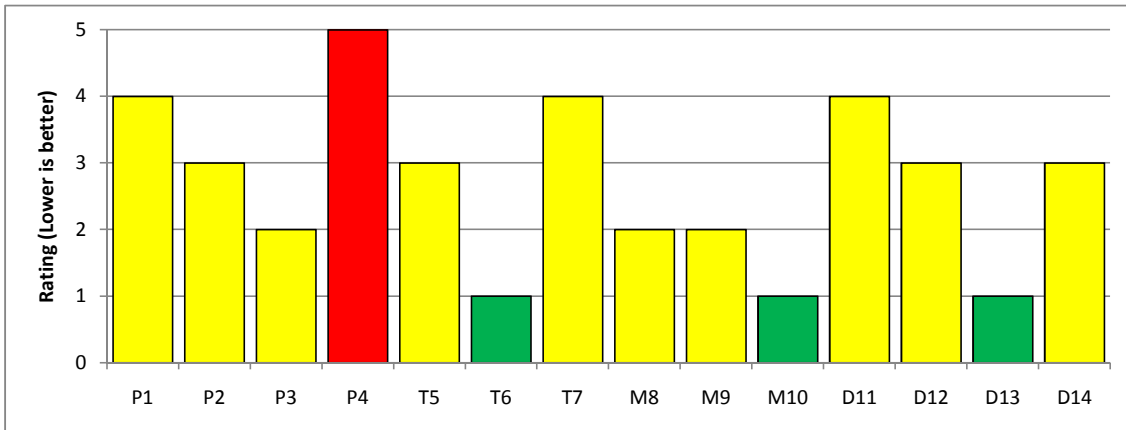
### Land use



## SUPPORTING LAND USE PLANS AND ECONOMIC DEVELOPMENT PLANS IN THE TRI-COUNTY AREA

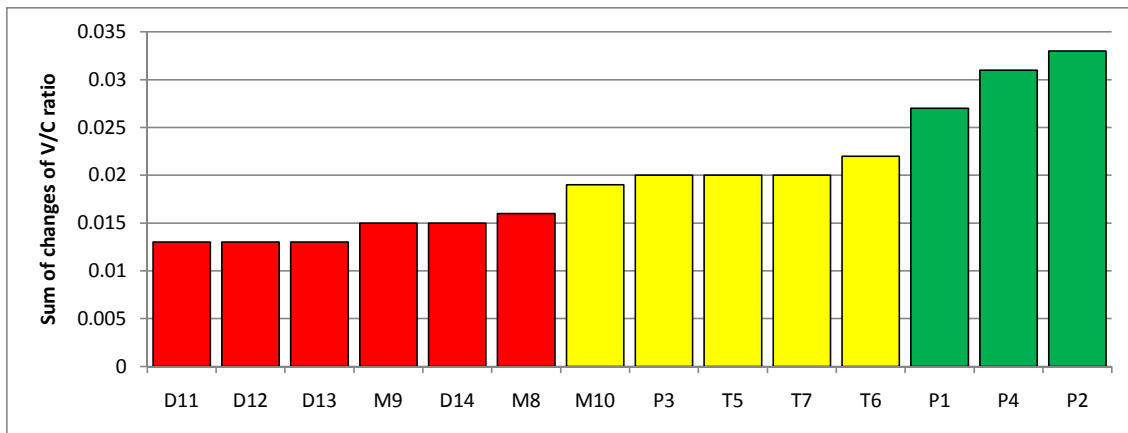
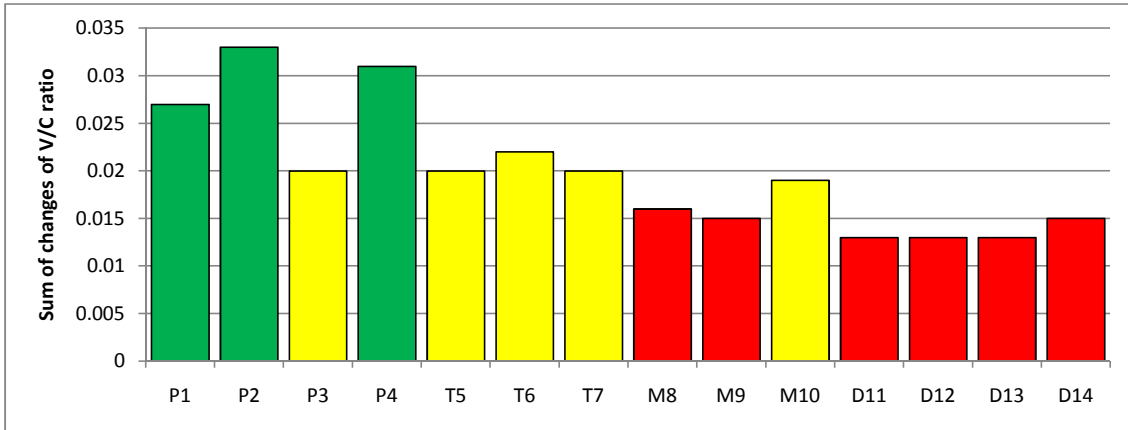
*Compatibility with land use and other data contained in currently adopted comprehensive plans, long range plans, or transportation plans prepared by or for the communities in the area; and, compatibility with the conclusions and recommendations of currently adopted economic development plans for the area.*

### Economic Development



## IMPROVED TRAVEL FLOW

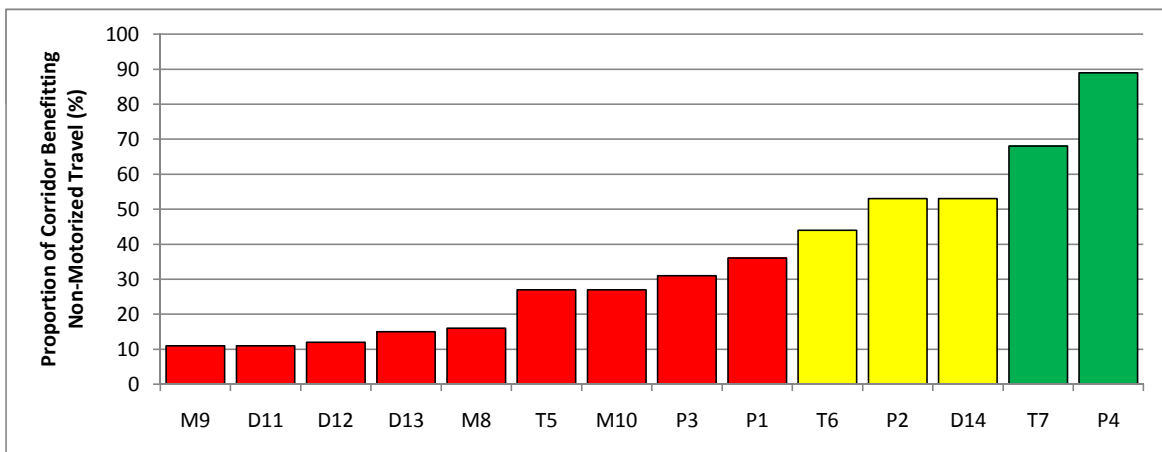
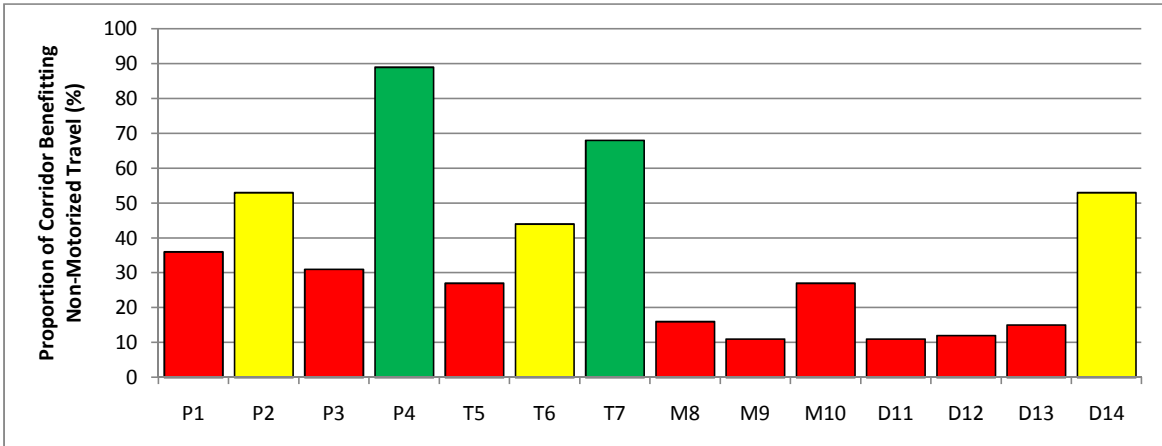
*A reduction in the volume-to-capacity (v/c) ratio on selected routes in the area.*



## IMPROVED MULTI-MODAL CONNECTIONS

*A reduction in travel time between major modal hubs and transfer points, and, an improvement in the ability to choose non-motorized modes to access common travel destinations in the study area.*

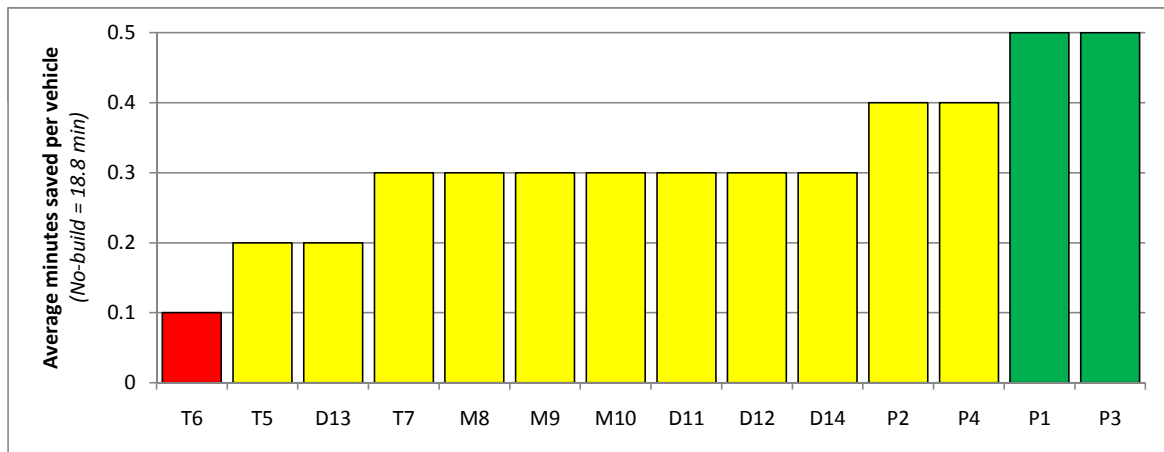
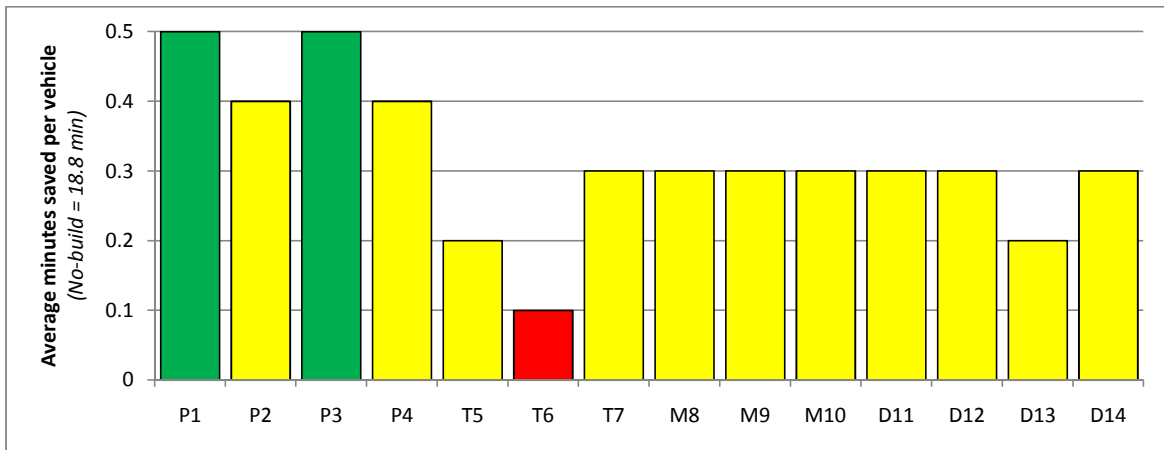
### Non-Motorized Travel



## IMPROVED MULTI-MODAL CONNECTIONS

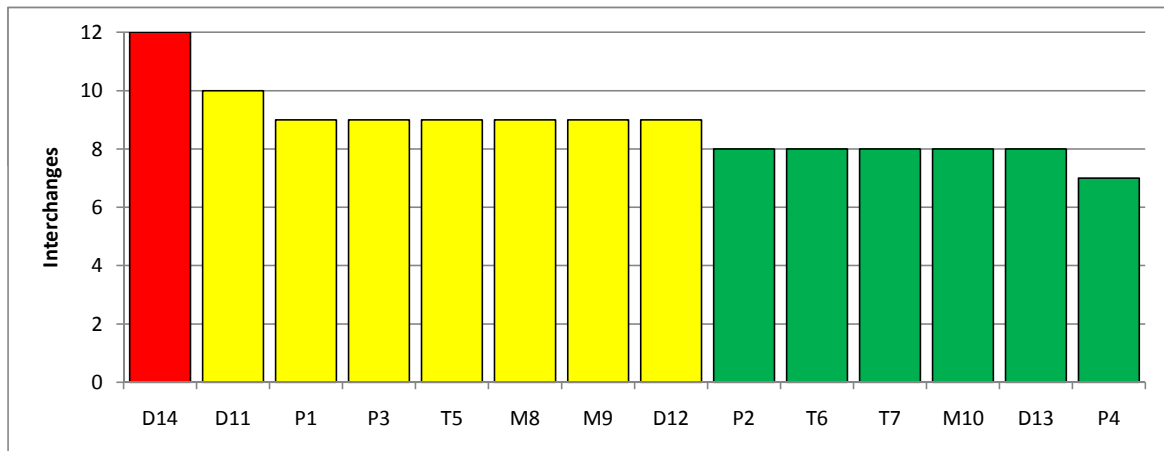
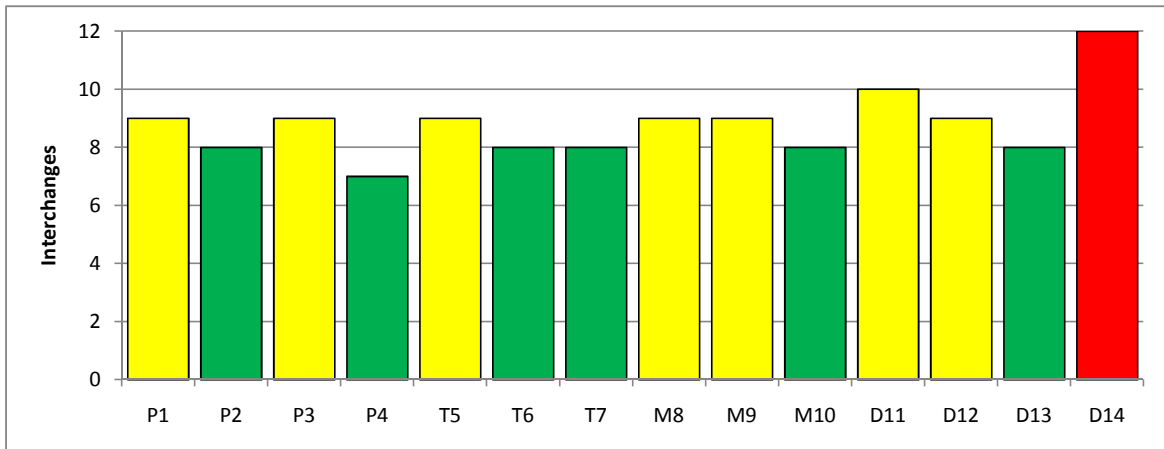
*A reduction in travel time between major modal hubs and transfer points, and, an improvement in the ability to choose non-motorized modes to access common travel destinations in the study area.*

### Hub-to-Hub Transfer Points



## INTERCHANGES

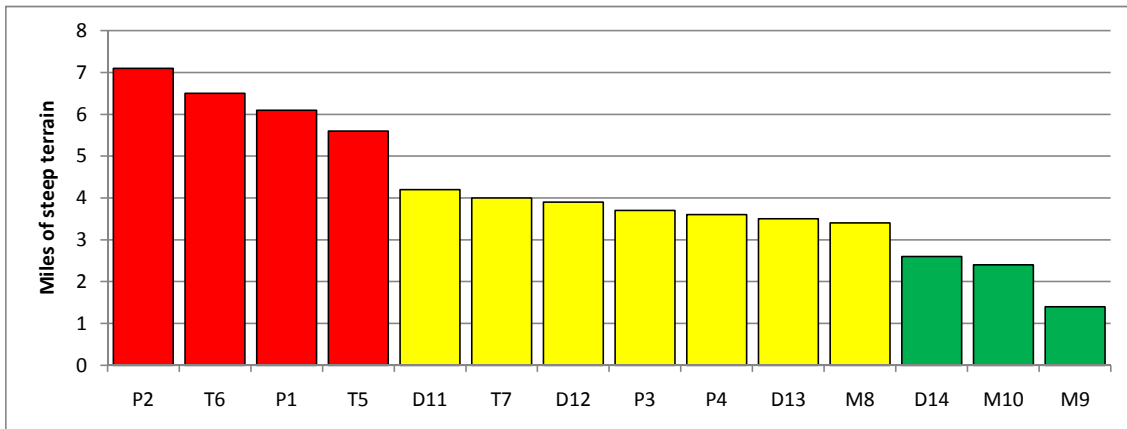
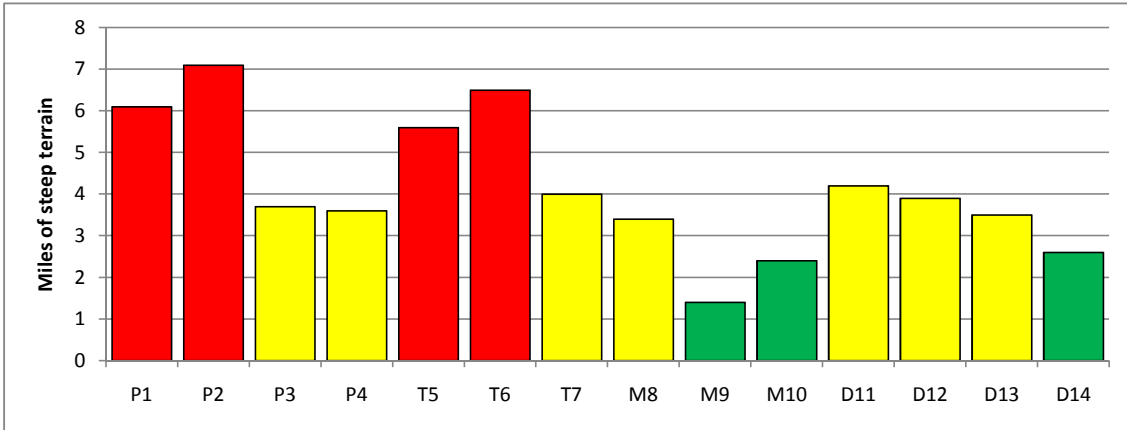
*Interchanges are places where access to a limited- or controlled-access highway is provided for traffic from major crossroads. They are an important factor in the location of new highways because they provide access to the rest of the roadway network, require a relatively large amount of land, and are relatively expensive to build.*





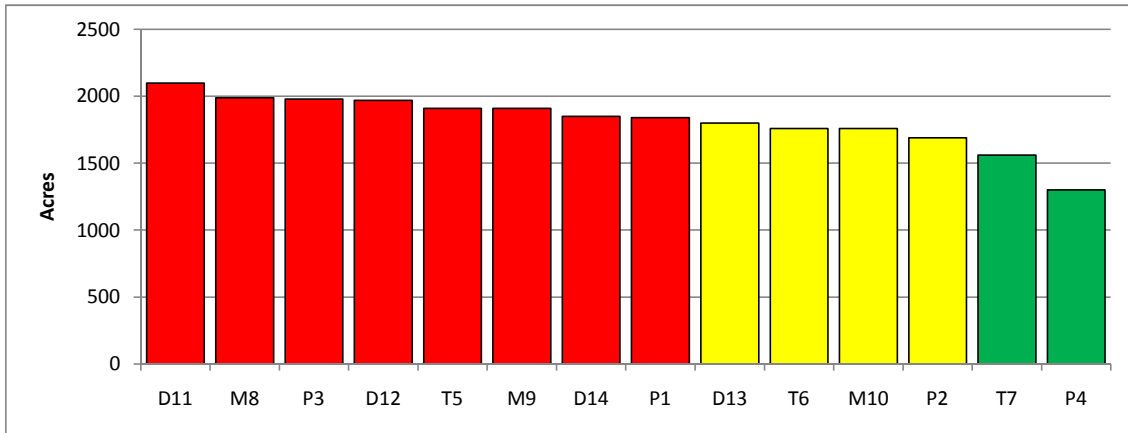
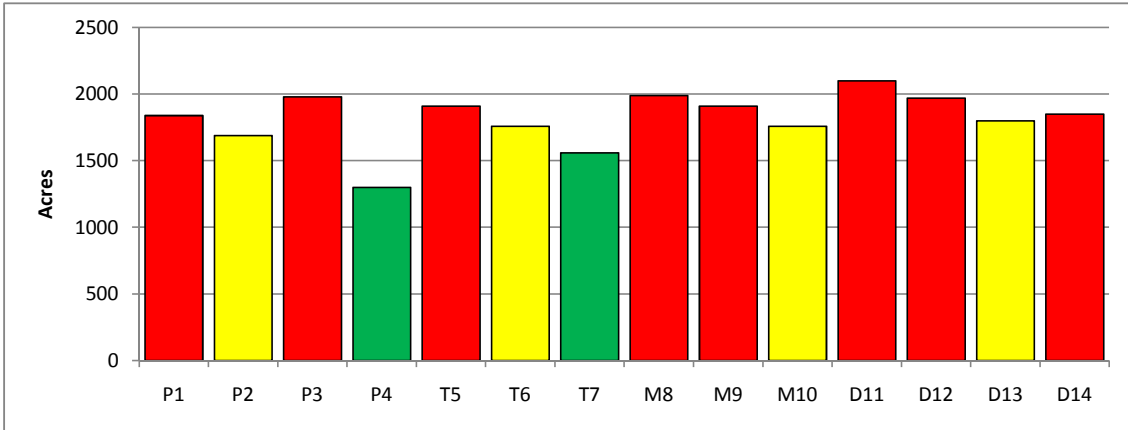
## STEEP TERRAIN

*On new rural freeways, the maximum desirable grade is three percent. Terrain that is steeper than three percent requires additional earthwork, additional costs, and sometimes additional bridge lengths.*



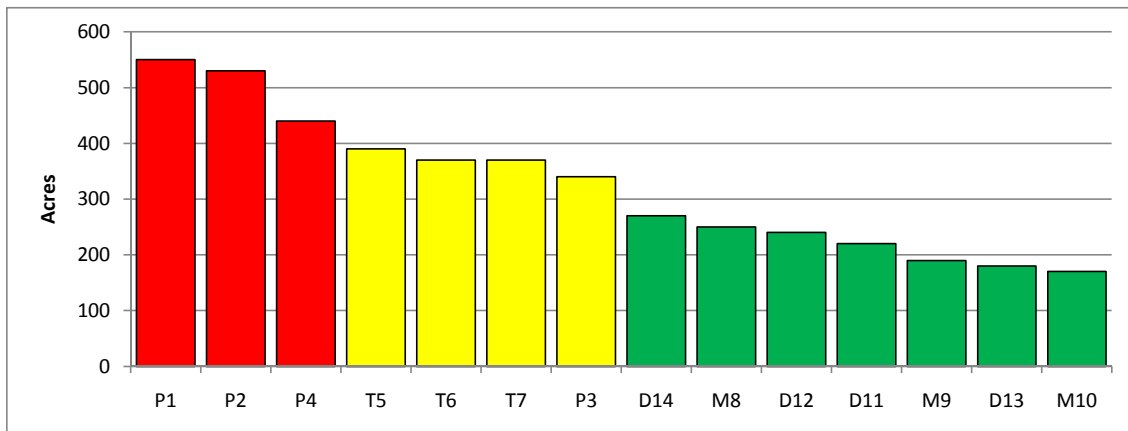
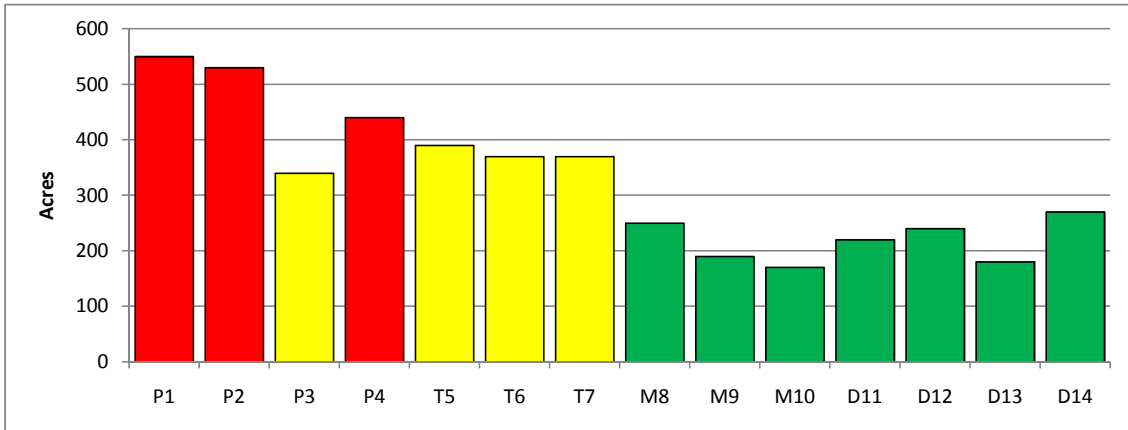
## TOTAL NEW RIGHT-OF-WAY

*While the actual "footprint" of the Eastern Bypass right-of-way will vary, depending on terrain, access features, and other engineering considerations, a typical width of 500 feet was applied to a representative band drawn for each corridor. This allows for a comparison of the relative magnitude of acreage required for each corridor.*



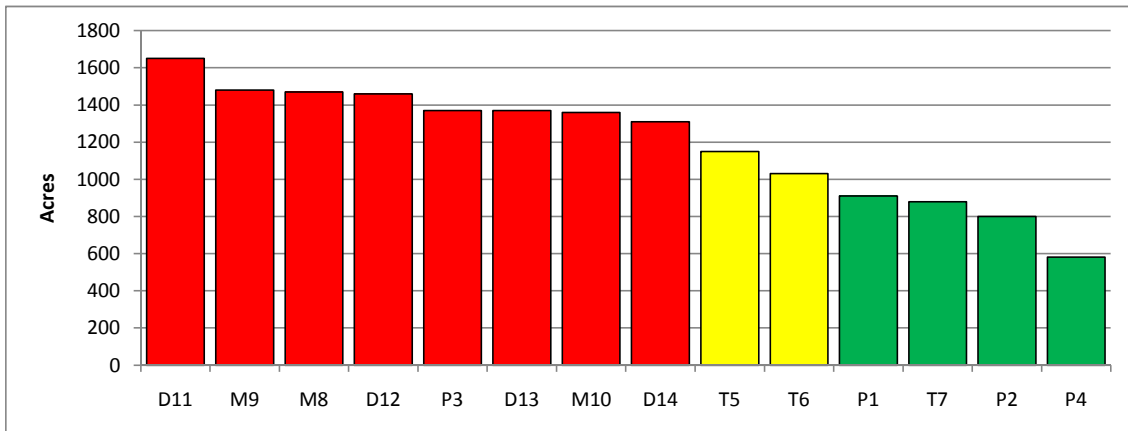
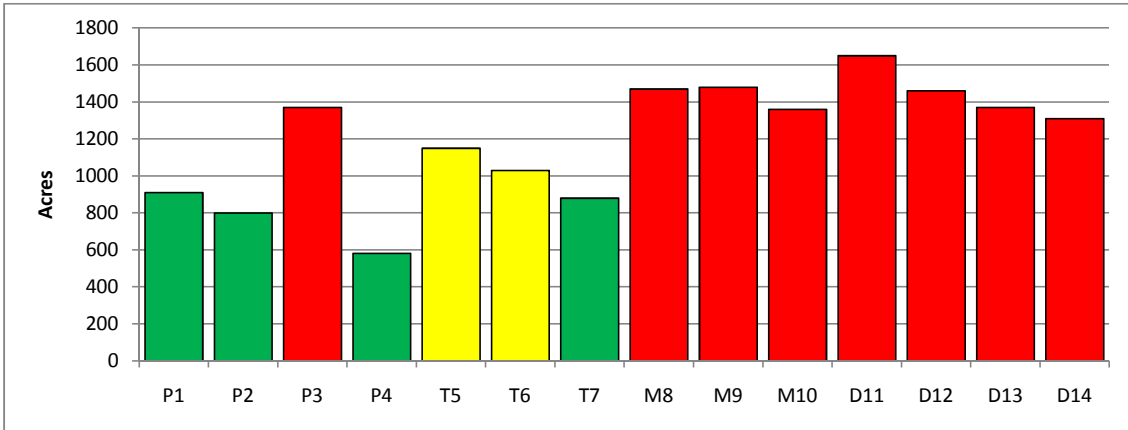
## FORESTED AREAS

*Forested areas are an important land cover classification. They provide habitat value, scenic value and represent a relatively unique resource in the central Illinois region, given that the majority of open land in this region is now in agricultural use.*



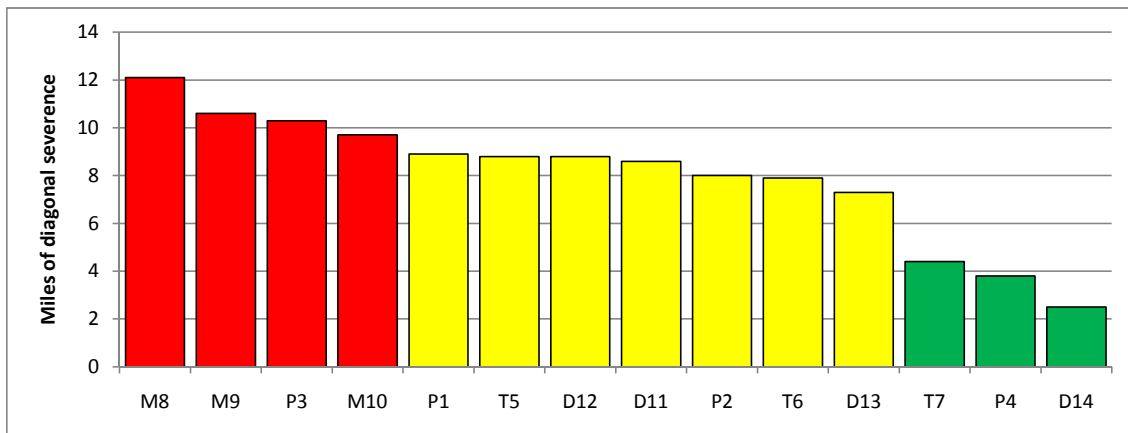
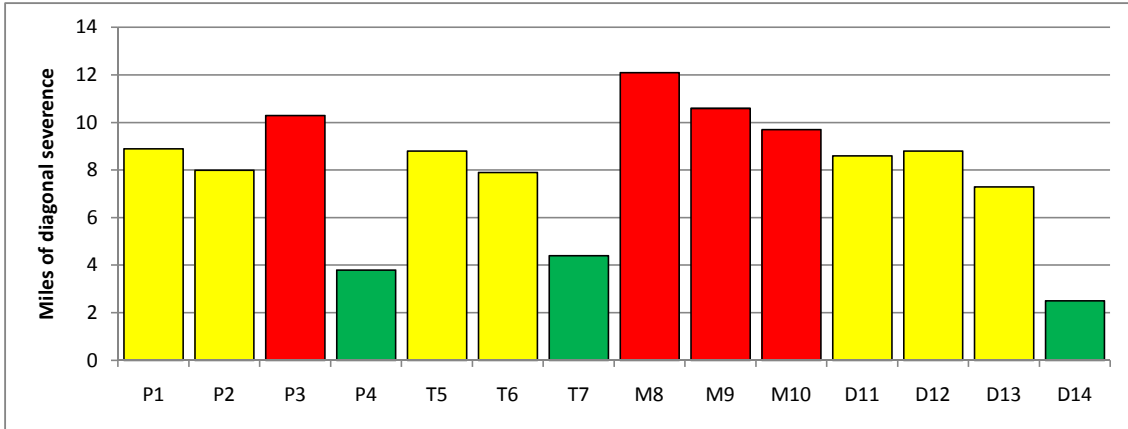
## AGRICULTURAL LANDS

*Agricultural lands include fields actively being farmed with row crops, as well as fallow fields that are designated as agricultural. These lands are of local and statewide importance. The Eastern Bypass project, being federally funded, is subject to the requirements of the Farmland Protection Policy Act (FPPA) of 1981.*



## DIAGONAL CROP SEVERENCES

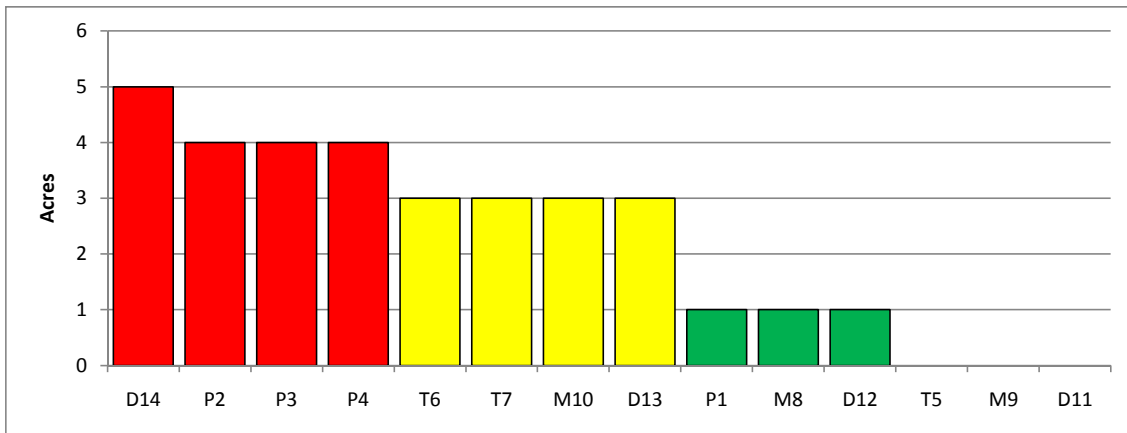
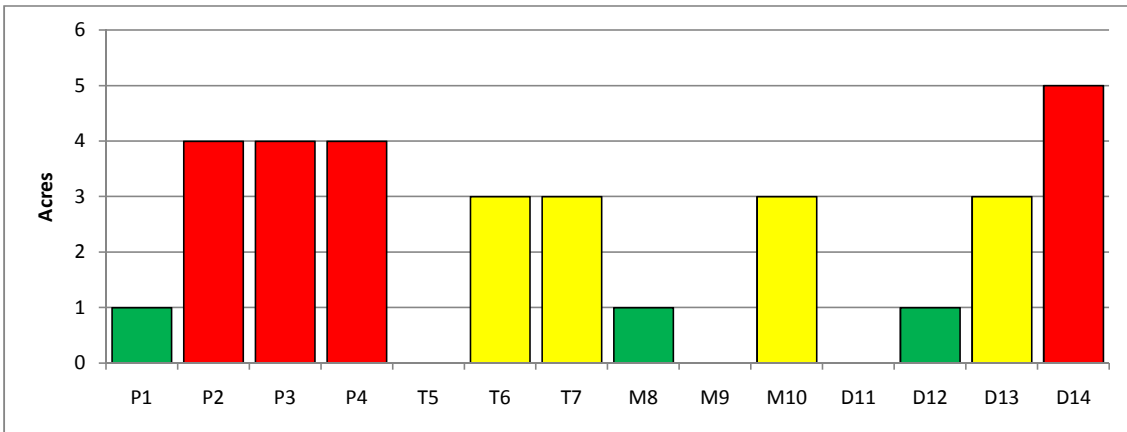
*If a new highway requires a path of right-of-way through the middle of a farm field (leaving two smaller fields separated by the highway), difficulties arise due to the need to move tractors and other farm equipment from one field to the next. In some instances, several miles of additional travel might be required. Diagonal severances through fields can cause inefficiency because tractors and other equipment work best when turns are 90 degrees or more. With diagonally severed fields, the areas at the acute corners are lost from production.*



## CONSERVATION AND PARK AREAS

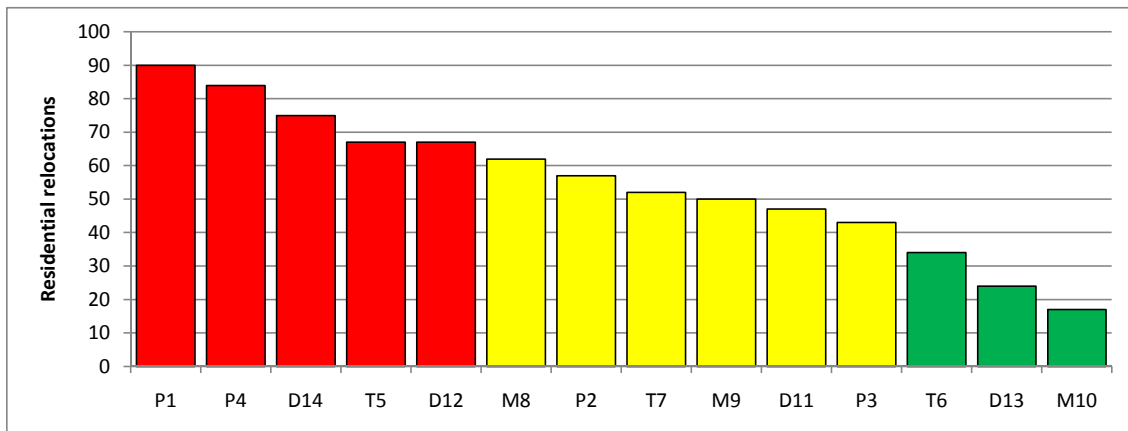
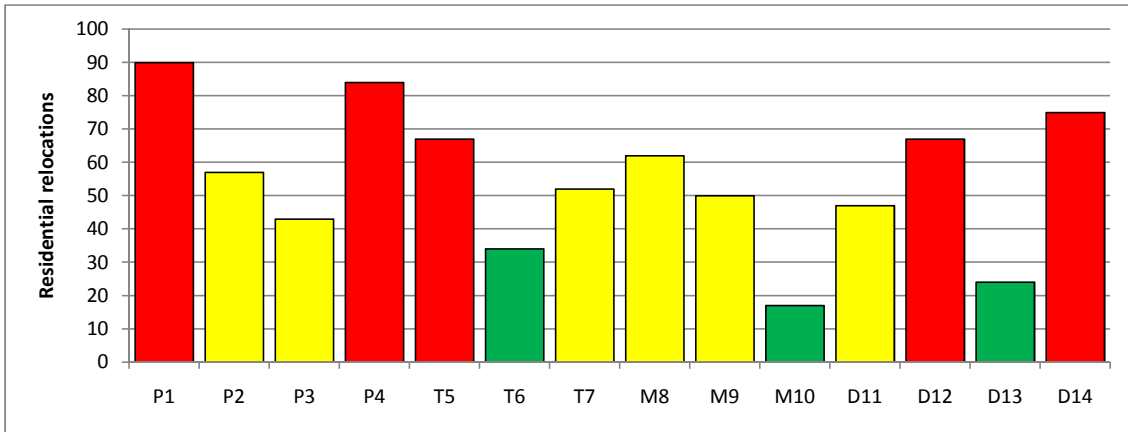
*Recreational land includes city and regional parks, public golf courses, and other similar land uses. Recreational uses are an important consideration for roadway development because they represent areas used by a large number of nearby residents and tourists. Potential Section 4(f) resources, which include publicly-owned parks, recreation areas, wildlife/waterfowl refuges, and historic sites, are important considerations for corridor locations. These resources cannot be used for a transportation project unless there is no prudent and feasible alternative and all possible steps have been taken to minimize harm resulting from the project.*

NOTE: Corridors without a bar have a value of zero.



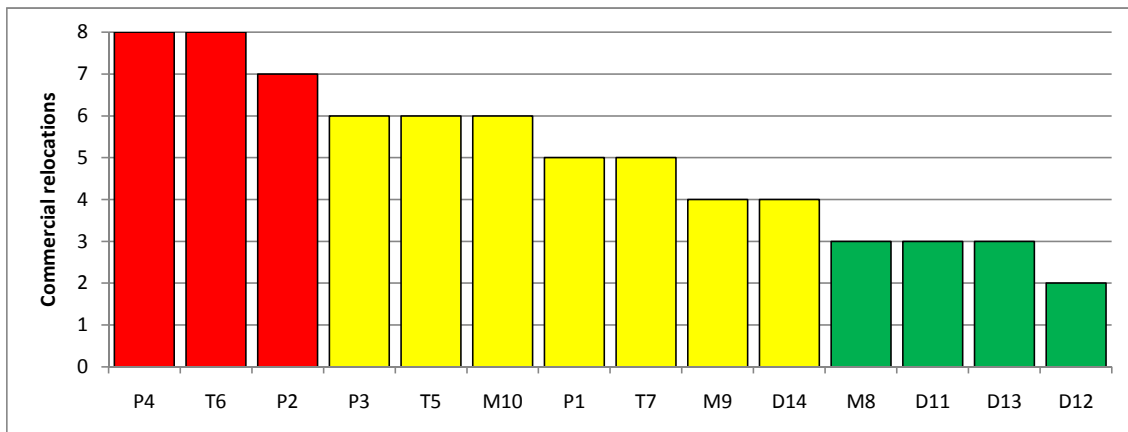
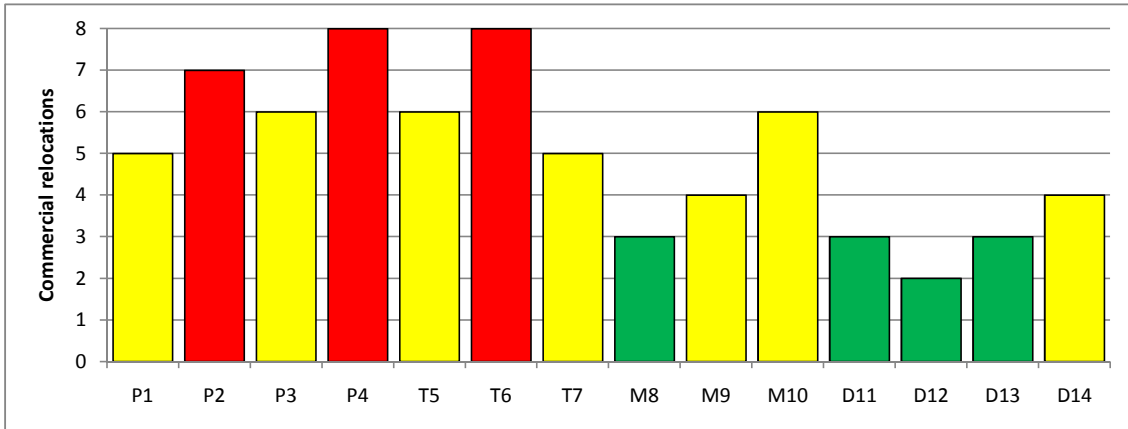
## RESIDENTIAL RELOCATIONS

Residential includes single-family, multi-family and mobile home units. They are an important consideration for roadway development because residents must be relocated, resulting in disruption to individuals and families.



## COMMERCIAL/INDUSTRIAL RELOCATIONS

*Commercial/industrial includes offices, service-related businesses, and mixed-use areas, as well as manufacturing and processing plants and industrial parks. These areas represent important considerations for roadway development due to the large areas of land they require and the large scale infrastructure investments associated with these land uses – factors that make relocation more difficult.*

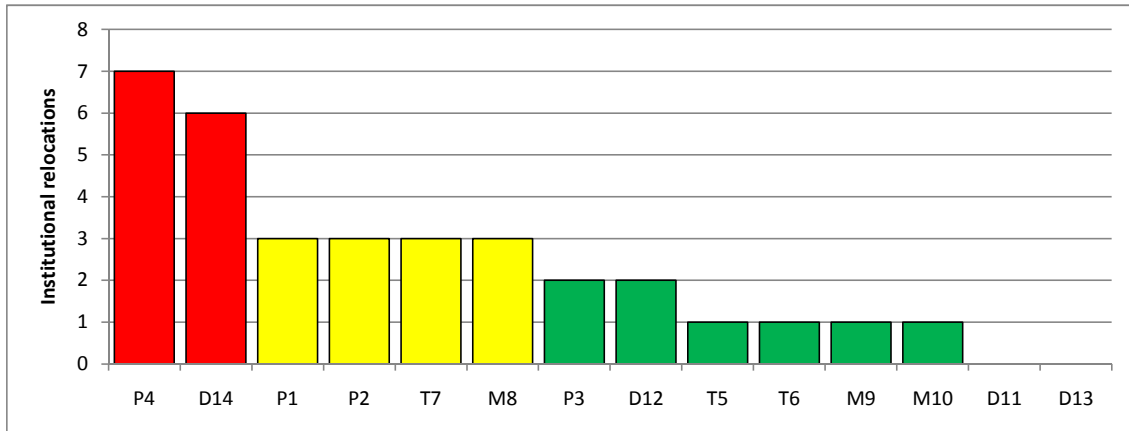
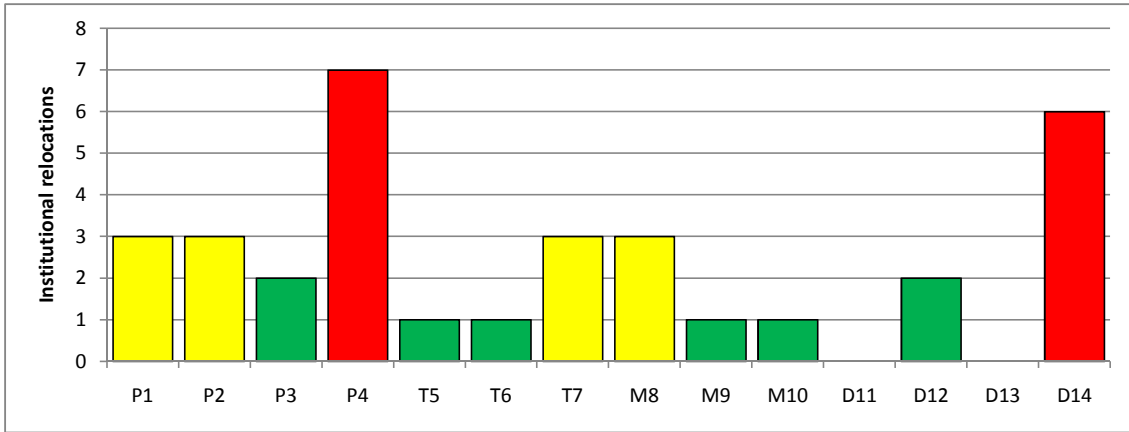




## INSTITUTIONAL RELOCATIONS

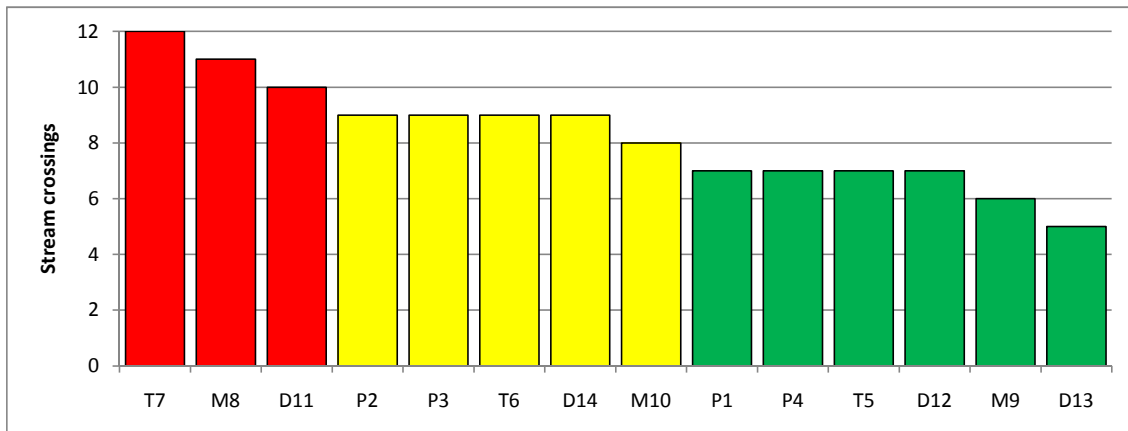
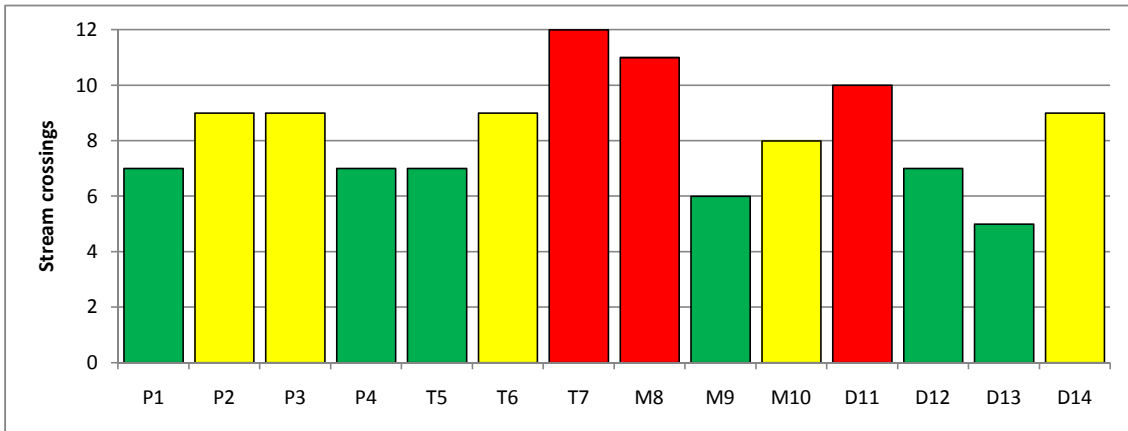
*Institutional includes schools, places of worship, public facilities, and cemeteries, all of which represent large investments of public resources or serve a large segment of the community. Due to these characteristics, institutional relocations are important considerations in roadway development.*

NOTE: Corridors without a bar have a value of zero.



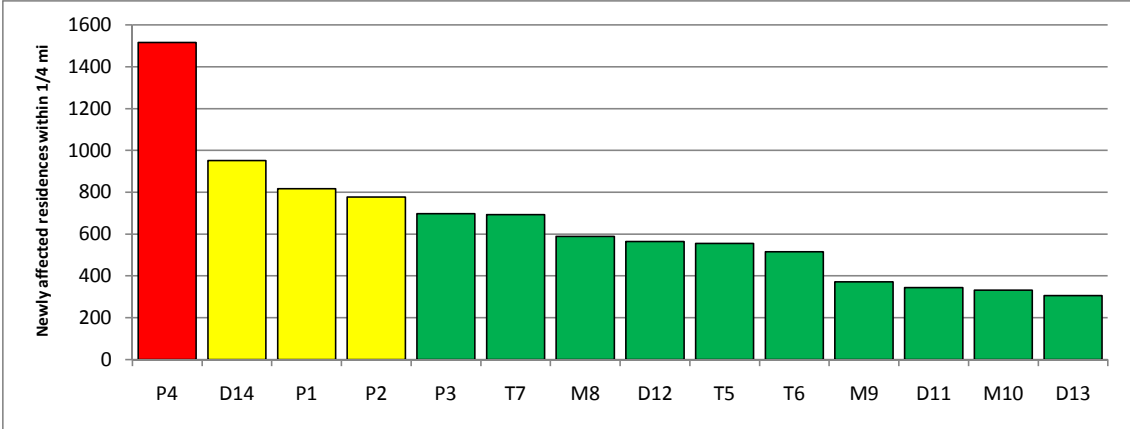
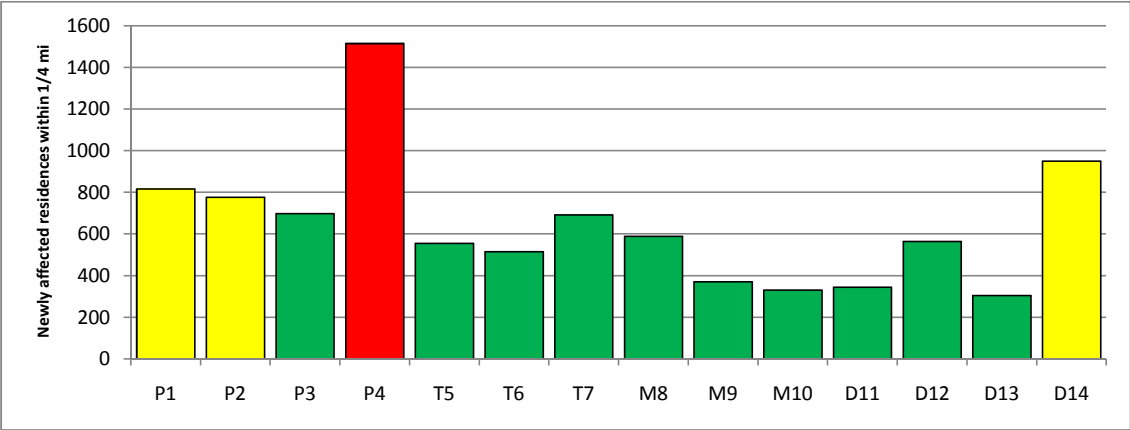
## STREAM CROSSINGS

*Stream crossings are an important consideration in locating a new highway facility because of the potential for construction impacts, and occasionally longer-term impacts to stream quality. Any stream crossing must be permitted by the US Army Corp of Engineers before construction can proceed.*



## POTENTIAL PROXIMITY EFFECTS - RESIDENTIAL

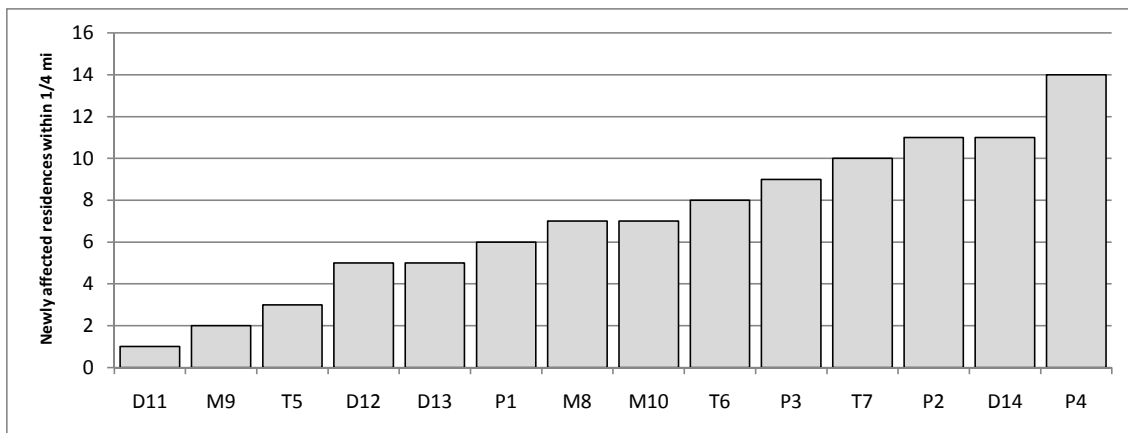
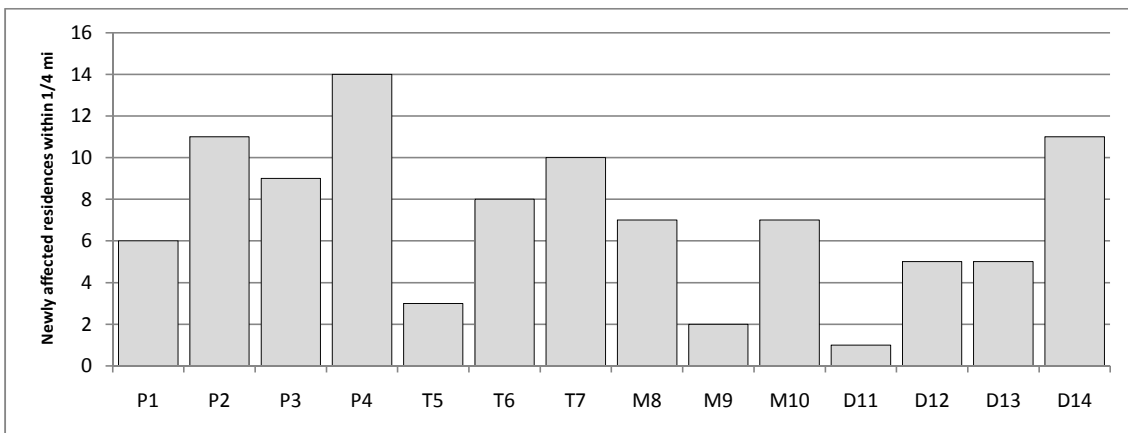
*“Proximity effects” is a general description for the range of possible impacts, either positive or negative, on residences or other developed properties located near, but not within, the hypothetical right-of-way of each representative band. These potential impacts may include increases in noise, altered travel patterns, changes in local view sheds, construction impacts, changes in property values, and psychological effects associated with living in close proximity to a limited- or controlled-access highway. For this study, close proximity is defined as a distance of approximately one-quarter mile from the right-of-way of the highway. The data below shows the estimated number of residential, commercial/industrial, institutional, and historic structures within one-quarter mile of the center line of each study corridor’s representative band. Not included are structures that are presently within a quarter-mile of the existing IL Route 6 or Interstate 74.*



## POTENTIAL PROXIMITY EFFECTS - INSTITUTIONAL

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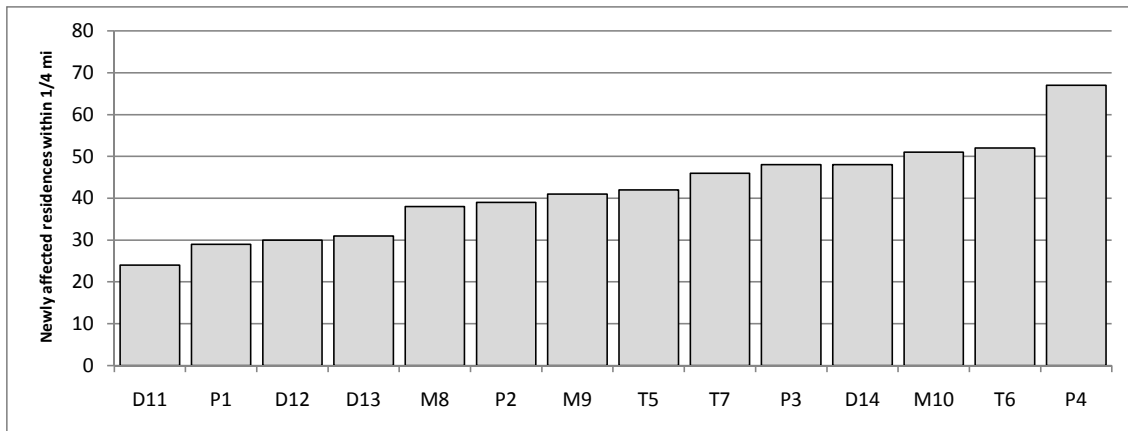
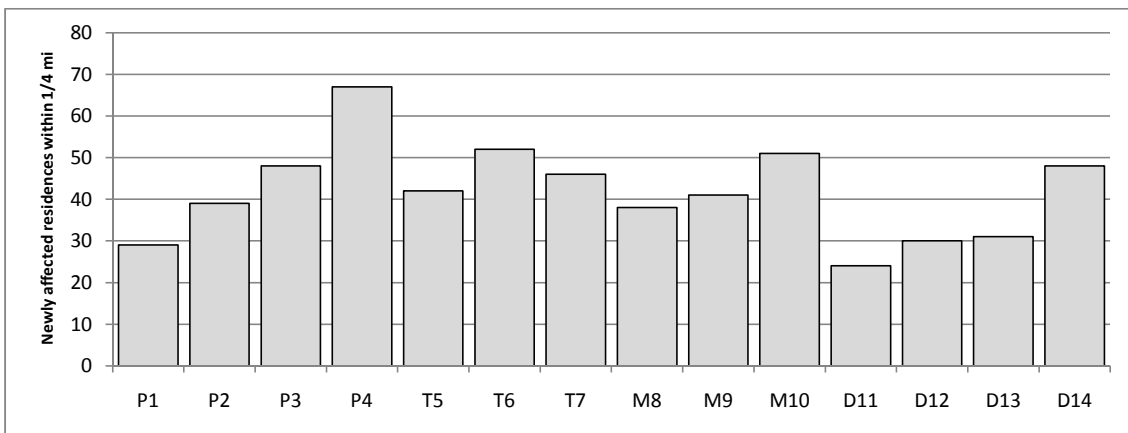
Note: This category was not assigned colors because proximity to the a highway could be either positive or negative, depending on the individual property usage.



## POTENTIAL PROXIMITY EFFECTS - COMMERCIAL / INDUSTRIAL

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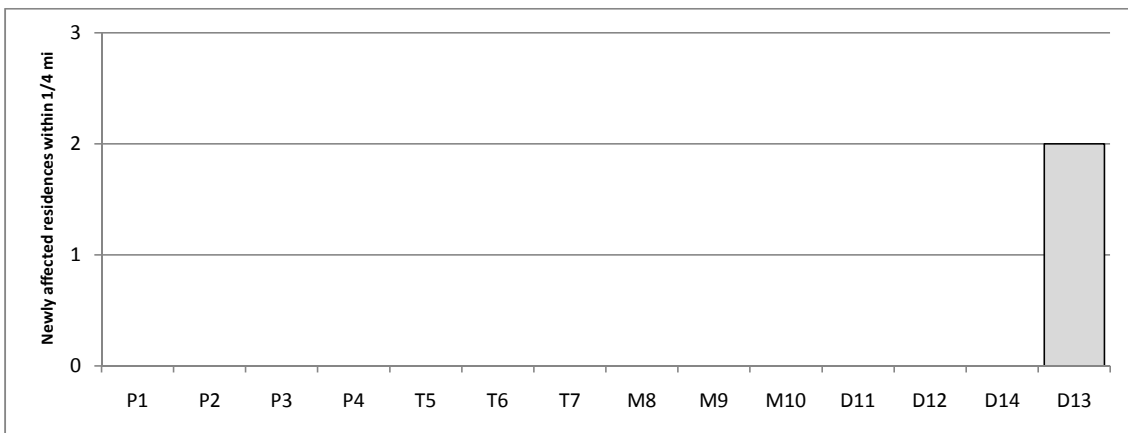
Note: This category was not assigned colors because proximity to the a highway could be either positive or negative, depending on the individual property usage.



## POTENTIAL PROXIMITY EFFECTS - HISTORIC

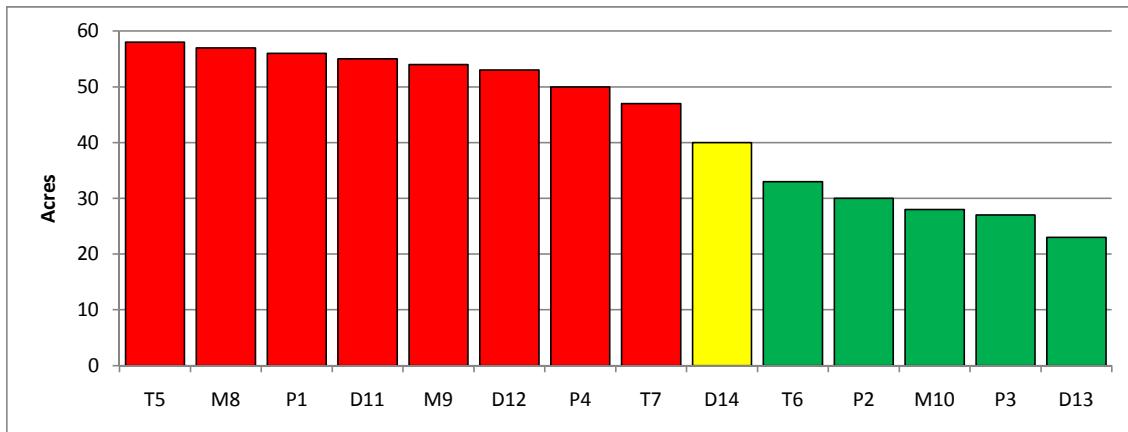
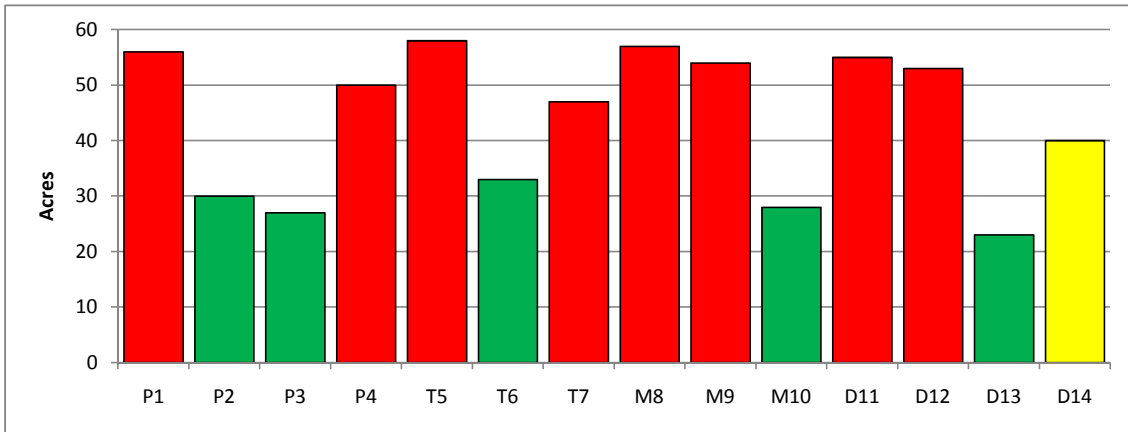
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## WETLANDS

*Wetlands are protected by Executive Order 11990 (U.S. DOT Order 5660.1A) and federal and state permitting requirements. Wetlands should be avoided unless there is no practicable alternative. Any wetland impacts must be permitted by the US Army Corp of Engineers before construction can proceed.*



## 100-YEAR FLOODPLAINS

*Executive Order 11988 "Floodplain Management" requires that encroachments on the base floodplain be avoided or minimized where practicable. Areas within the 100-year floodplain, as delineated by the Federal Emergency Management Agency (FEMA), are areas that have a one percent chance of flooding in any given year. These areas are situated in close proximity to water bodies such as oceans, lakes, rivers, streams and other wetland areas. Flooding, in addition to causing human injury and damage to property, is also unsafe for motorists and a common source of infrastructure damage. Therefore, areas of the 100-year floodplain are an important consideration in roadway development.*

