

Considering Rail Line Mitigation

In considering the impact of additional passenger and freight train traffic on Springfield's 3rd Street rail corridor, it has been proposed that the effects might be mitigated by closing some streets, creating "quiet zones" at some intersections, and creating over- and underpasses at others. This possibility is referenced in an Aug. 7, 2009, letter from an official with Union Pacific (UP) Railroad to the Mayor of Springfield and the Sangamon County Board Chairman.

The reference in this letter appears to be related to a mitigation proposal that had been offered by UP previously. That UP proposal called for:

- The closure of 7 road crossings: Ridgely, Eastman, Jackson, Canedy, Allen, Pine and Spruce (the SSCRPC found that two of these crossings, Pine and Spruce, were already closed).
- The placement of quad gates and other barriers at 6 intersections to allow "quiet zones": Washington, Adams, Monroe, Scarritt, Cedar and Laurel (though the 2003 high speed rail environmental impact study recommended closing Scarritt).
- The construction of 9 overpasses: 5th St., Union, Carpenter, Madison, Jefferson, Cook, Lawrence, South Grand and Ash.
- The construction of one underpass: 4th St.

No mitigation was proposed for the crossings at N. 9th, North Grand at North 6th, Dodge, and Capital.

In addition, no suggestion was made concerning another possible option; taking the rail line below grade.

The mitigation actions recommended by UP would all occur within a relatively short 4.4 mile stretch of the 3rd St. rail corridor.

The mitigation proposed by the UP is more extensive than that suggested in the 2003 high speed rail environmental impact study. The SSCRPC believes that the additional proposed mitigation supports the contention that the new high speed rail proposal will require far more mitigation than the 2003 environmental impact study suggested, because that study only considered the impact of eight passenger trips each day along a one rail line and did not consider the impact of additional freight traffic.

Of course extensive mitigation activities have consequences as well; particularly over- and underpasses which tend to have a greater effect on the areas surrounding them than do the other approaches to mitigation suggested by UP. Because of this the SSCRPC assessed each of the over- and underpasses suggested to determine their potential impact on surrounding areas. Each of the intersections suggested for over- and underpasses by UP are preliminarily addressed in the following pages. This report summarizes our review.

In assessing overpasses one needs to consider their length and width. Preliminary engineering analysis determined that a road overpass would

generally need approximately 24 ft of lift above the track for trains to clear, and that no more than a 5% grade would be allowed to meet ADA requirements for pedestrian access. Based upon this, we determined that an overpass would require 800 ft. of ramp on each side of the rail line center, or 1600 ft in total length, end-to-end.

Alternately an underpass requires approximately 550 ft. on either side of the rail line center as the clearance for auto and truck traffic running below the rail line is not as great as that needed for trains running under a roadway.

To determine width, we used the current road width. However we must note that the width may ultimately need to be greater to accept pedestrian walkways, and this would not necessarily limit the need for sidewalks at ground level if pedestrian access is to remain available to properties adjacent to over- and underpasses.

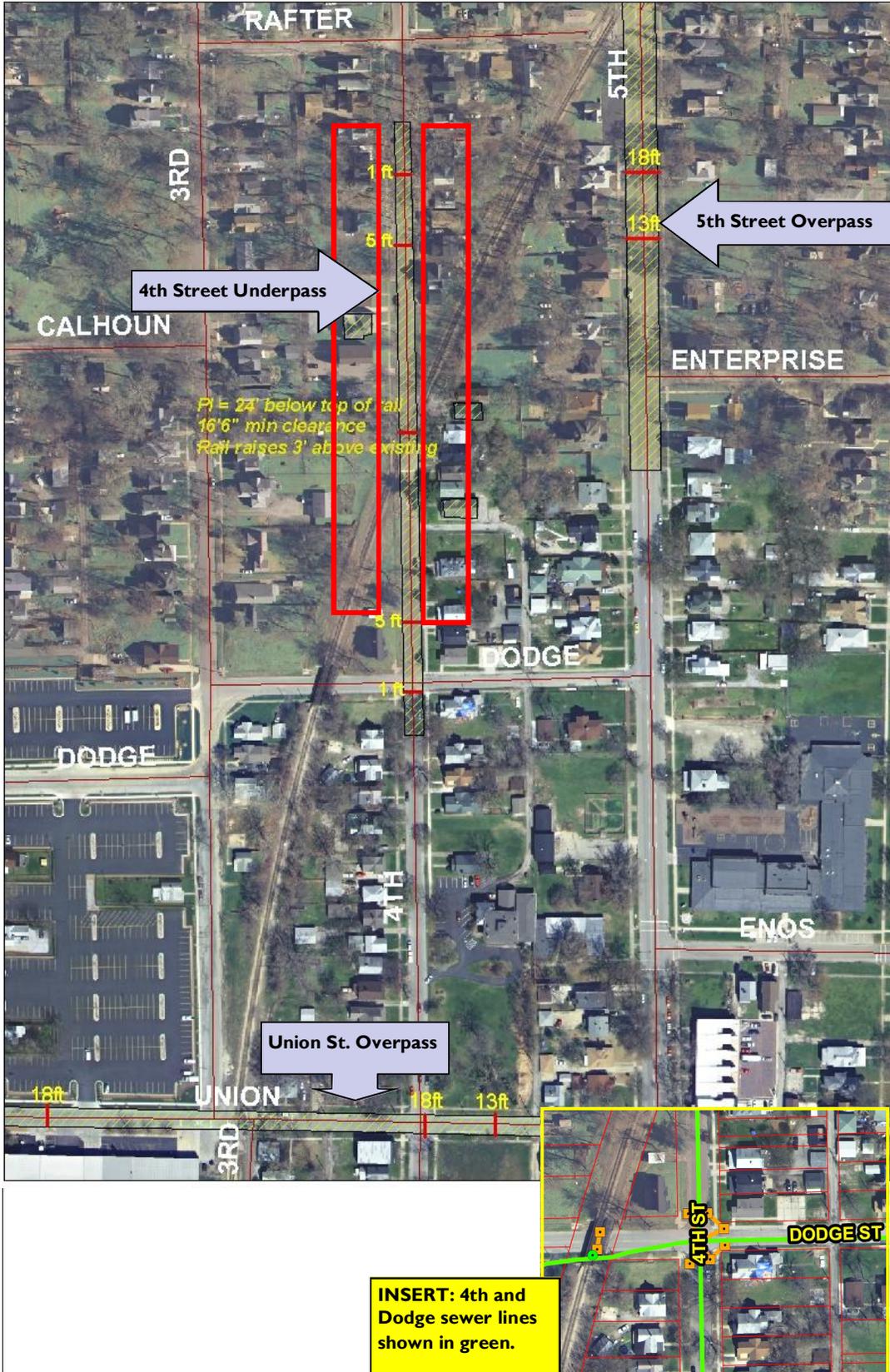
We must also note that the length of overpasses has been shortened in some of the cases so that the grade for each overpass begins at a logical intersection point. This may not always be possible and could create additional difficulties with mitigation not discussed here. In addition, the use of over- and underpasses in Springfield is complicated by the shorter block lengths in the downtown area, and the fact that many of the proposed over and underpasses are quite near one another. The effect of this is described in each case.

Special points of interest:

- **4th Street Underpass — Page 2.**
- **5th Street Overpass — Page 3.**
- **Ash Street Overpass — Page 4.**
- **Carpenter & Union Overpasses — Page 5.**
- **Cook & Lawrence Street Overpasses — Page 6.**
- **Jefferson & Madison Street Overpasses — Page 7.**
- **South Grand Overpass — Page 8.**
- **Visual Impact of Proposed Overpasses — Page 9.**
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4th STREET UNDERPASS



Mitigation Issues

Providing an underpass on 4th Street south of Rafter and north of Dodge is complicated by the proposed 5th St. overpass to the east (see page 3). For this reason portions of the 5th St. overpass are shown on the map to the left. Also note Union St. overpass to the south (see page 5).

We estimate that approximately 25 homes along 4th could lose road access. Properties most likely affected are shown in red boxes.

Properties that no longer have access would need to be purchased. It is unclear as to whether or not demolition of the structures on these properties would be required and how the properties would be maintained. This would be the case in other areas where properties would no longer have road access as well.

At Dodge, access may be affected by the 4th street underpass as the distance required to cross Dodge extends the underpass further south.

We note that a city sewer runs the length of 4th in this area, with another sewer running east-west at the Dodge/4th intersection (see insert). The 4th St. sewer would need relocation, as well as might the sewer to the south running along Dodge.

5th Street Overpass

Mitigation Issues

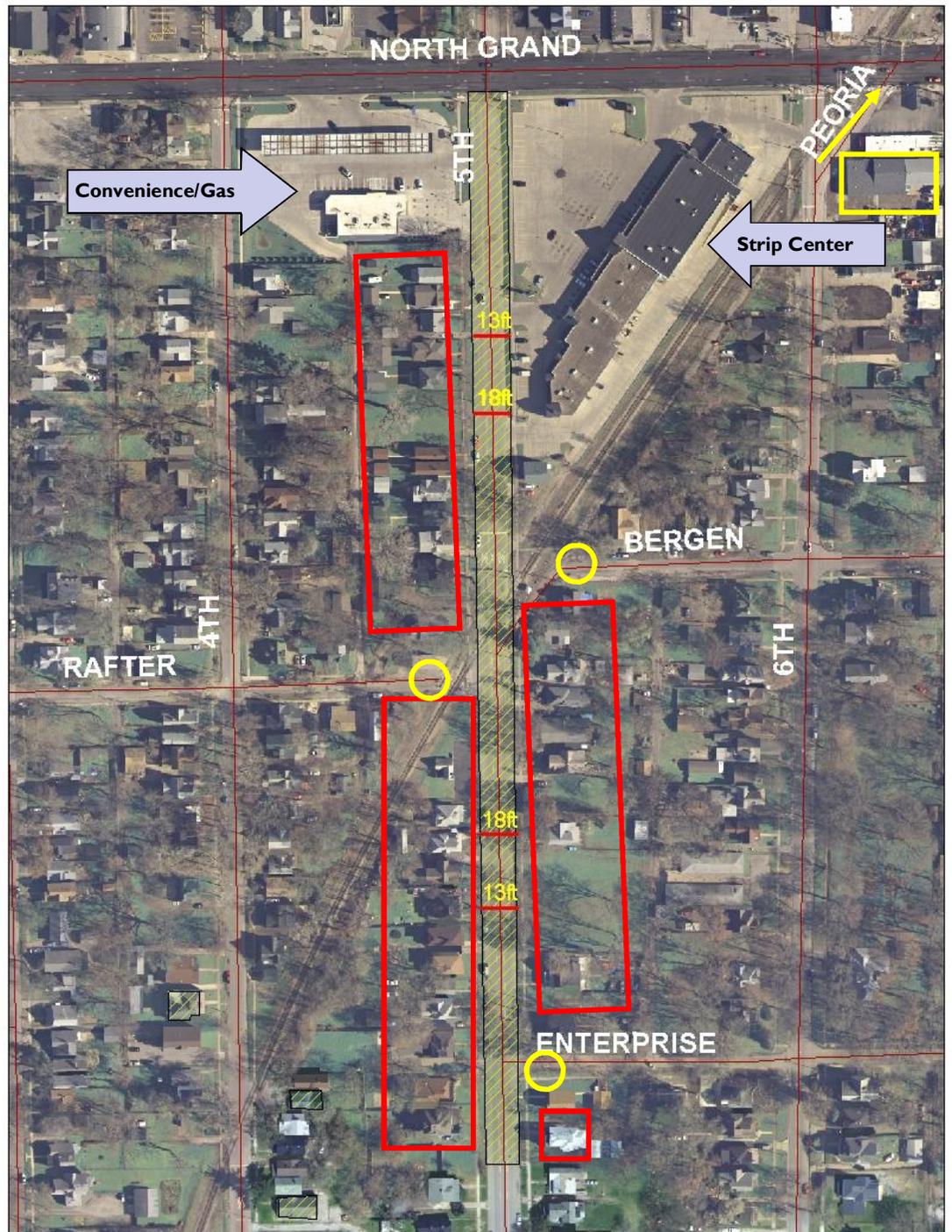
Approximately 33 homes would be fronted by a support wall of concrete and road access lost. It does not appear that access can be provided to the homes to the north of Rafter via the alley. Some limited access would be available to properties adjacent to Rafter. As noted previously, properties may need to be purchased due to lack of access.

The convenience store/gas station to the north would lose access to 5th street on its east.

The strip center to the north-east would lose access from its 5th St. entrances. Based upon review of railroad right-of-way, the strip center could also lose parking and service lanes at the rear if this access is closed.

Expansion or closure of right-of-way could also affect access to a tow company service garage to the east of the strip center (in yellow box). If the railroad were to close and secure access along its 3rd. St. corridor right-of-way, as the UP has indicated, access to this property would be eliminated. This would include the small Peoria Rd. turn lane (yellow arrow) that takes traffic from 6th St. east on to North Grand.

Cul-de-sacs (see yellow circles) with a radius large enough to allow for fire equipment to turn may be required where Rafter, Bergen and Enterprise terminate at the overpass. This may require acquisition of additional right-of-way.



ASH STREET OVERPASS



Mitigation Issues

The Ash overpass would result in the IDOT District 6 headquarters being fronted by a wall of concrete from 13' to 18' in height; approximately 24' at the garage. All access to the IDOT garage could be lost, with the only access to the property coming from the south via 1st. Street.

The business to the east of the IDOT facility could lose access unless residential properties are lost to create access from 4th St.

1st St. would be closed on either side of the overpass. It may be possible to save 4th St. by lowering its grade so that it can continue under the overpass.

Properties fronting on Ash St. would lose road access. Additional right of way would be required from their front and side yards, as well as property for new sidewalks. Given the loss of additional front- and side-yards, the structures might ultimately be lost.

Three cul-de-sacs, with a large enough radius for fire equipment, would most likely be required at the points where 1st St. and 2nd St. would dead-end at the overpass so that traffic could turn. This may require additional property acquisition at these points for right-of-way.

CARPENTER & UNION OVERPASSES**Mitigation Issues****Carpenter Street**

Mitigation here would result in 2nd and 4th streets being blocked unless 4th St. could be taken below grade. A sewer runs under 4th, complicating this possibility. The extent to which that street would need to be lowered would determine whether or not properties between Union and Carpenter would still have any access.

All access to CVS could be blocked as a segment of 2nd St. would be lost, and access to numerous businesses and medical facilities would be lost, at least their access to Carpenter.

Parking lot access would be eliminated on Carpenter. The Memorial Hospital shipping and receiving center would lose all truck access to its loading dock. This building also houses the Memorial Home Care Retail Center.

Union Street

The 2nd St. segment between the two overpasses most likely could not be saved, at least in any form that would provide access off of that segment.

Access to parking to the north and south would be lost and a primary parking lot would have access from only one point on 1st St. Additionally, north access to Lottery parking could be lost.

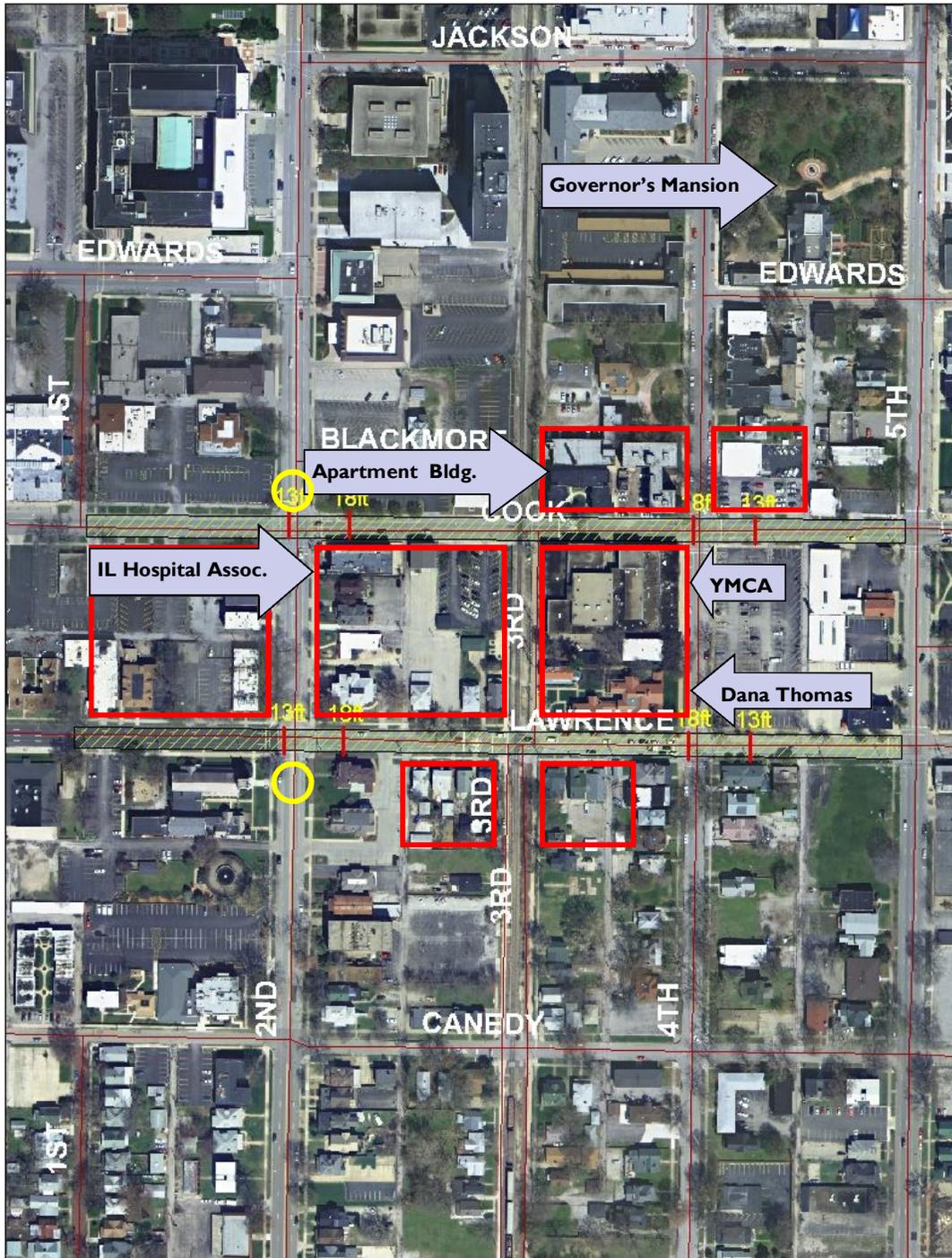
One way streets may need to be altered to allow access if 4th cannot be saved.

Access to several homes between the overpasses would be affected.



Please Note: These overpasses work together to create significant issues for parking associated with the Memorial Hospital campus. Memorial could lose at least five current access points to its employee and visitor parking lots. They might be served by additional entrances on 1st St., however this would need to be considered in light of additional traffic congestion and stacking that might occur along that segment as these all represent large parking areas.

COOK & LAWRENCE STREET OVERPASSES



Mitigation Issues

Cook Street

While it is likely that the 2nd St. road segment between Cook and Lawrence will be lost, it may be possible to retain traffic flow on 4th St. by taking it below grade. However, this would still result in access being lost to an apartment building and the YMCA. This would also eliminate access to the parking lot to the east of the YMCA and the Dana Thomas House.

The Illinois Hospital Association would lose all access to its property.

One way traffic changes will be needed in the area. Traffic circulation problems will most likely result.

Lawrence Street

All access to historic Dana Thomas House would be eliminated, along with access to 6-8 homes. There would no longer be a view of the Dana Thomas House from the south.

It appears that 10-12 businesses or public offices could lose all street access.

Cul-de-sacs may need to be created at the two points where 2nd St. would terminate at the overpasses. This may require additional property acquisition for right-of-way.

The segment of 2nd St. between the overpasses most likely would be lost, but potentially converted to another use.

JEFFERSON & MADISON OVERPASSES

Mitigation Issues

Given the very close proximity of these two proposed overpasses, they will work together to create significant access problems in the area.

Since access to 2nd St. would be lost, a car dealership (see yellow boxes) would lose all access to its show rooms on two blocks. Street visibility for this business would also be lost.

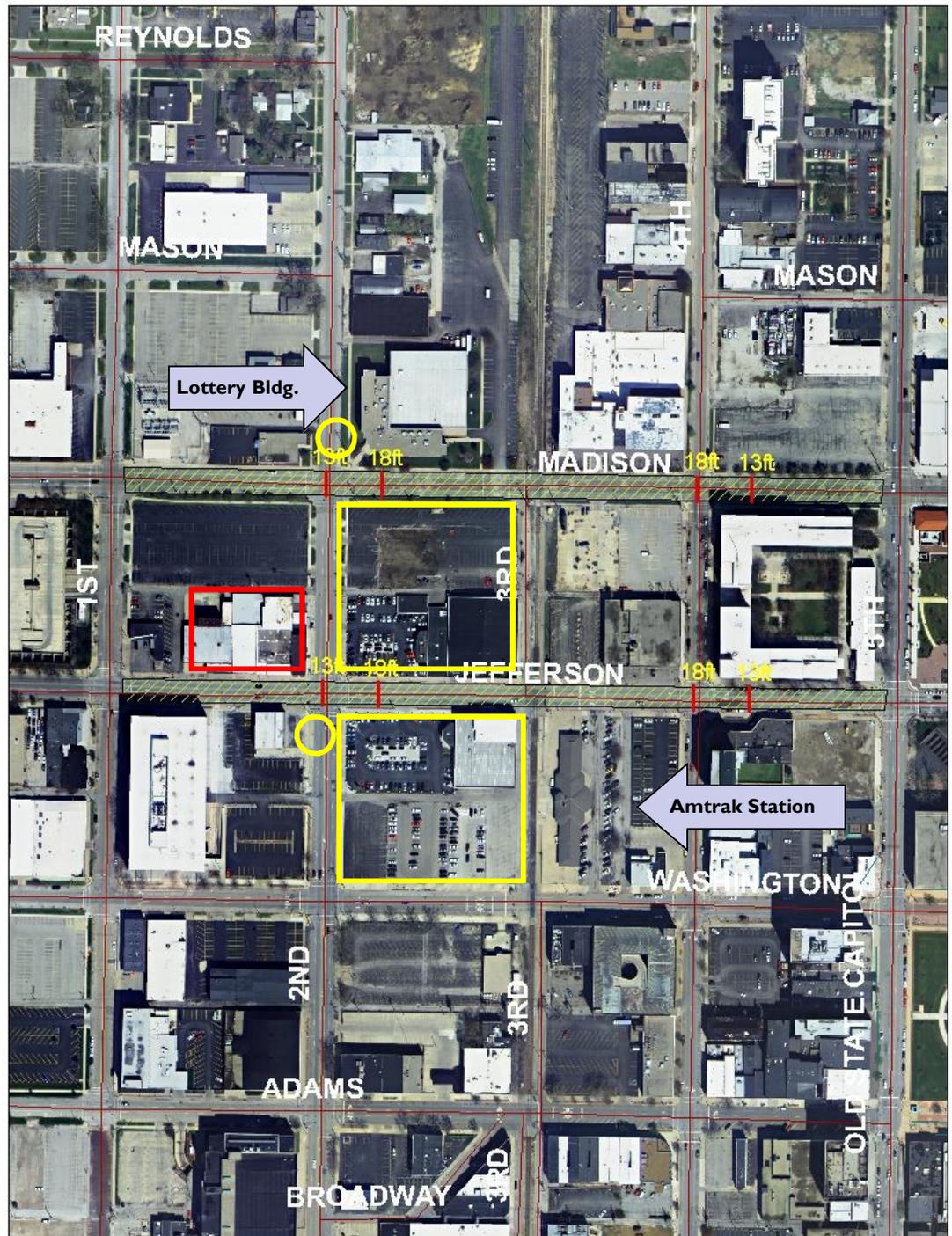
Six to seven commercial properties (see red box), including warehouses, could lose all access. Access to the Lottery building would be lost to its south. This exacerbates a problem mentioned related to the proposed Carpenter overpass (page 5).

Access to parking lots between the overpasses would be lost. Employee parking for state offices could be blocked by an overpass at either entrance. There would also be a loss of on-street parking along Jefferson.

As is the case in other places, it may be possible to save 4th St. if it is lowered below current grade. However, it is likely that it will need to be lowered such that access along it could not be provided to the east or west.

Cul-de-sac's may be needed at the termination of 2nd St. to the north and south of the two overpasses.

The segment of 2nd St. between Jefferson and Madison would be lost and could possibly be converted to some other use.



SOUTH GRAND OVERPASS



Mitigation Issues

Two state office buildings would be fronted by this proposed overpass. Access to the DHS building and its parking lot would be lost from the north, while access to the HFS building and its parking lot would be lost from the south.

In addition, access to the state employee parking lot to the east of the HFS building would also be lost from South Grand. Since employees walk from this lot to the state office building, it is unclear as to how pedestrian access might be maintained.

As in other cases, it may be possible to lower 4th St. enough to continue it under the overpass. However, that lowering might affect access off of it in the immediate vicinity of South Grand. One-way street changes would be needed if 4th St. cannot be retained in some way.

Access to approx 6 businesses (in yellow boxes) would be reduced or eliminated. This access is significantly complicated as 5th St. is a one-way arterial running south at this point.

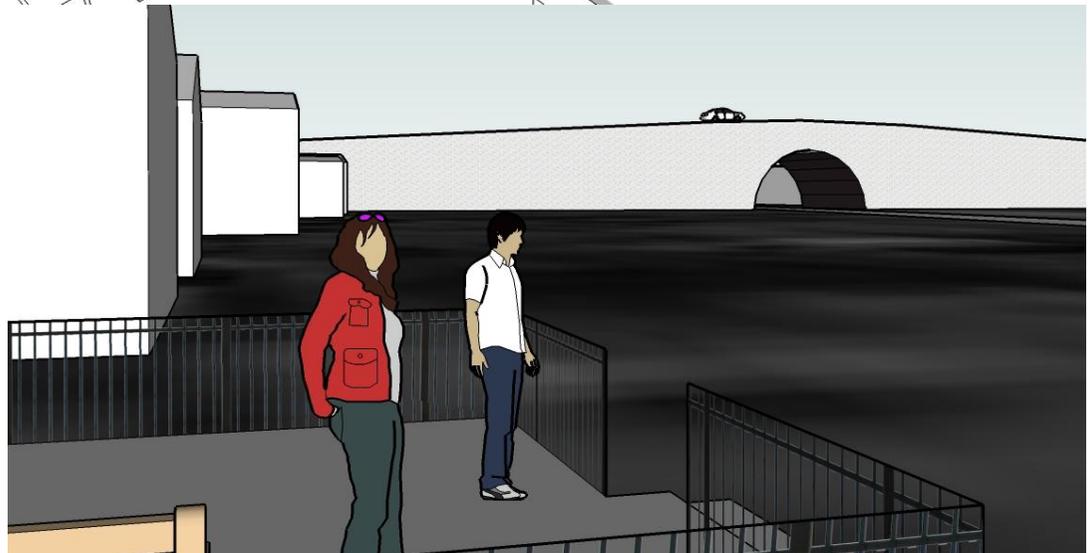
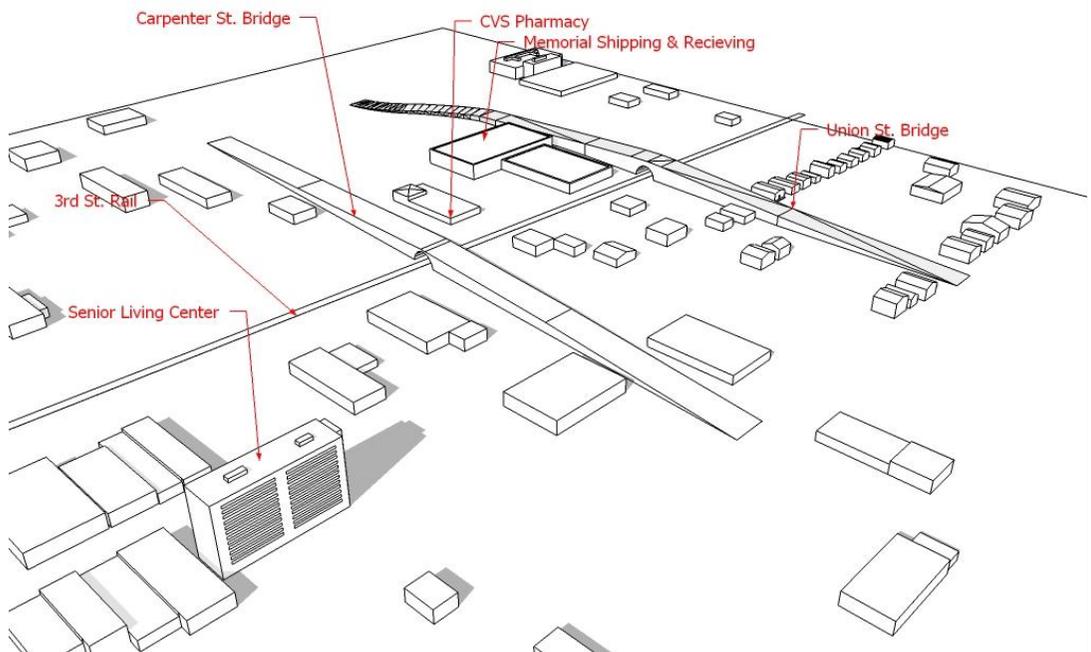
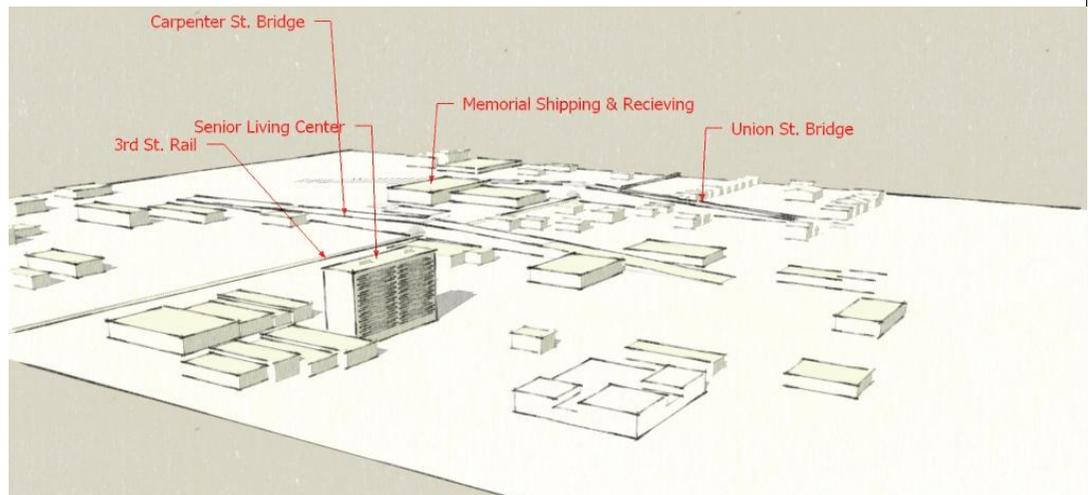
Cul-de-sacs will most likely be needed where 2nd St. terminates at the overpass. Additional property acquisition may be needed for right-of-way.

Visual Impact of Proposed Overpasses

The mitigation issues mentioned previously are better understood in the context of the size of the overpasses. The drawings to the right attempt to show the implications of using an overpass.

The drawings represent the proposed overpasses at Carpenter and Union streets. These are the overpasses discussed on page 5 of this report. The north-south roads are not shown on the drawings but can be approximated by the positioning of the surrounding structures. Note, for example, how access can be lost to both the CVS pharmacy and the Memorial Hospital shipping and receiving facility.

The drawing at the bottom attempts to provide some idea as to the scale of such an overpass; in this particular case, the north side of the Union St. overpass. While the train underpass is not to scale, we have attempted to provide some idea as to the height of the overpass by virtue of the automobile shown crossing over it. The drawing shows the overpass from the rear of an existing residential property approximately 400 feet to the north.



Concluding Comments

It is important to note in closing that the mitigation proposals reviewed by the SSCRPC were based upon initial suggestions from representatives of the UP rather than any formal proposal by a governmental body that has reviewed the corridor in light of the proposed project. Typically we would expect mitigation recommendations to arise from an environmental impact study for the project conducted by IDOT or the Federal Railroad Administration, or through IDOT's interactions with local stakeholders as part of the Context Sensitive Solution process noted in Illinois Public Act 93-0545. But unfortunately no complete assessment under either has been done.

The lack of such a complete assessment is demonstrated in the mitigation proposed by UP, as upon initial review we found, for example, that: the 8th Street at-grade crossing was omitted from the list of crossings submitted by the railroad; two of the crossings suggested for closure had already been closed; and while the UP recommended closing "all access to 3rd street", we are left unsure as to whether or not the railroad understood that this is not simply a rail corridor but in some places a working roadway serving homes and businesses.

Consideration needs to be given to a number of other aspects of any mitigation plan that are, unfortunately, beyond the scope of this analysis. Concerns have been raised, for example, regarding the challenges that surrounding utility infrastructure creates for the construction of over- and underpasses at the UP suggested mitigation sites. In many areas identified in this report there are primary sanitary and storm sewer lines near the surface of the affected roadways. We are also aware of fiber optic lines near the proposed corridor that could be affected by mitigation activities. Engineering studies would be needed to properly identify the effects that the proposed mitigation would have on this surrounding infrastructure.

In reviewing the individual mitigation sites we also became concerned about their impact on pedestrian movement. As the SSCRPC mentioned in its initial report on planning issues associated with additional rail use on the 3rd Street corridor, pedestrian access is critical in many areas adjacent to it. The corridor passes through the Medical District, the Capitol Complex, the historic district in the center of the downtown (which includes many tourist destinations and visitor sites), is within walking distance of several schools (for example, McClelland Elementary School is within one block of two proposed overpasses and one underpass), and other community facilities (such as the YMCA and senior high-rises). We also previously noted a number of locations along the corridor where employees park on one side of the rail line and walk to their places of employment on the other side. We do not at this point know the effect that the mitigation suggested would have on pedestrian movement or how the closing of "all access to 3rd street" might affect this movement. The 2003 environmental impact study did not recommend the closing of any recognized pedestrian crossings in Springfield. Since the 2003 study addressed a more limited impact than appears to be the case with the current plan, we believe that it is reasonable to assume a number of pedestrian walkway closures will be needed under the new proposal. This would need to be considered in the development of any fruitful mitigation plan.

Our review of one component of the mitigation proposal — the creation of a number of under- and overpasses as suggested by UP — leads us to believe that mitigation along the 3rd Street rail corridor is much more complex than those who have not studied this corridor might believe, and that the mitigation itself may create the need for even more mitigation. Any such actions will be costly and we must make note that the 2003 environmental impact study (see Sec. 5.3.1 of that study) states that any changes to at-grade crossings would be separate from the Chicago-St. Louis rail project itself.

We believe that a comprehensive study of any proposed mitigation, including a study of alternatives to the 3rd Street route such as the proposed consolidation with the 10th Street corridor, is needed to determine the efficacy of the Union Pacific's mitigation proposal or any proposed by the State. This would allow for any externalities associated with the proposal to be considered in more detail.

About the Springfield-Sangamon County Regional Planning Commission

The Springfield-Sangamon County Regional Planning Commission (SCRPC) serves as the joint planning body for Sangamon County and the City of Springfield, as well as the Metropolitan Planning Organization for transportation planning in the region.

The Commission has 17 members including representatives from the Sangamon County Board, Springfield City Council, special units of government, and six appointed citizens from the city and county. The Executive Director is appointed by the Executive Board of the Commission.

The Commission works with other public and semi-public agencies throughout the area to promote orderly growth and redevelopment, and assists other Sangamon County communities with their planning needs. Through its professional staff, the SSCRPC provides overall planning services related to land use, housing, recreation, transportation, economics, environment, and special projects. It also houses the Sangamon County Department of Zoning and Building Safety which oversees zoning, building permits and code, and liquor licensing for the County.

The Commission prepares area-wide planning documents and assists the County, cities, and villages, as well as special districts, with planning activities. The staff reviews all proposed subdivisions and makes recommendations on all Springfield and Sangamon County zoning and variance requests. The agency serves as the county's Plat Officer, Floodplain Administrator, Census coordinator, and local A-95 review clearinghouse to process and review all federally funded applications for the county. The agency also maintains existing base maps, census tract maps, township and zoning maps and the road name map for the county.

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