4.6 Traffic Crashes

Traffic crash records on the roadway segments and intersections around TUFL were evaluated from 2007 to 2011, the latest years that data is available. Traffic crash records were obtained from the Illinois Department of Transportation (IDOT). Two intersection crashes and one mid-block crash involving some injuries were identified. Table 12 shows detailed information on these crashes.

Table 12: Crashes with Injuries near TUFL (2007 – 2011)

<table>
<thead>
<tr>
<th>Location</th>
<th>Intersection/Mid-block</th>
<th>Crash Type</th>
<th>Injury Type</th>
<th>Person Injured</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race St/Elm St</td>
<td>Intersection</td>
<td>Pedestrian</td>
<td>B injury</td>
<td>1</td>
<td>4/28/2011</td>
</tr>
<tr>
<td>Race St/Green St</td>
<td>Intersection</td>
<td>Fixed Object</td>
<td>A injury</td>
<td>1</td>
<td>9/23/2010</td>
</tr>
<tr>
<td>Elm St West of Race St</td>
<td>Mid-block</td>
<td>Turning</td>
<td>C injury</td>
<td>1</td>
<td>12/23/2011</td>
</tr>
</tbody>
</table>

Explanations of injury types can be found in Appendix B.

4.7 Pedestrian and Bicycle Facilities

All the roadways around TUFL have sidewalks. Field inspection found the sidewalks to be in acceptable condition. Pedestrian activities at the intersection of the library parking lot entrance and Green Street on a typical weekday are shown in Figure 17. Each column represents the number of pedestrians crossing an intersection leg.

Figure 17: Pedestrian Activities at TUFL Main Parking Entrance off Green Street
Crossing the north leg means pedestrians crossing the entrance of TUFL main parking lot. Crossing the west leg means pedestrians crossing Green Street just west of TUFL parking lot entrance. For example, 15 pedestrians crossed Green Street just west of TUFL main parking lot entrance from 9AM to 10AM. As can be seen in Figure 17, the highest pedestrian activities were in between 4PM and 5PM on a regular weekday. Figure 18 shows pedestrian activities at the Race Street entrance of TUFL. This entrance is in close proximity of a CUMTD bus stop, TUFL bicycle parking, the Downtown Urbana parking deck, Urbana Landmark Hotel/Lincoln Square Mall parking lot, and other downtown businesses.

A total of 356 patrons accessed TUFL through the Race Street entrance. As can be seen in Figure 18, the number of patrons accessing TUFL through the Race Street entrance peaked between 4PM and 5PM on a typical weekday.

**Figure 18: Pedestrian Activities at the Race Street Entrance**

TUFL has two designated bicycle parking locations. Figure 19 shows bicycle parking racks on the east side of TUFL parking lot near the CUMTD bus stop on Race Street. As can be seen in Figure 19, bicycle parking racks are “Inverted U” racks recommended by the Association of Pedestrian and Bicycle Professionals (APBP), and the parking surface is paved.
The bicycle parking facility shown in Figure 19 is not accessible directly from Race Street as there is no curb cut/bicycle ramp along Race Street near TUFL. Bicyclists traveling south on Race Street must turn onto Green Street to access the main entrance and bike racks of TUFL.

Figure 20 shows bicycle parking racks near the main entrance of TUFL off Green Street. These racks are capable of holding only one wheel of a bicycle and are not recommended by APBP. Moreover, the surface on which these racks are installed is not paved. Bicyclists would find using these racks challenging during rain or snowy conditions.
4.8 Drive thru Book Drop off Location

TUFL's drive thru book drop location is located near the main entrance on the north side of the parking lot. Four boxes were installed for facilitating the return of books, CDs, DVDs, and other borrowed materials directly from the patrons’ vehicles. Field observations found that the heights of book drop off boxes were not suitable for patrons driving passenger cars. Drop off boxes’ opening was 48 inches from the pavement. Figure 21 shows a passenger car next to the book drop off boxes.

Figure 21: TUFL Drop off Boxes
5.0 Findings and Recommendations

This chapter highlights major findings of the study and recommends appropriate countermeasures to alleviate parking and transportation challenges.

5.1 Findings

Major findings of the study were divided into two categories: findings from the survey and findings from the existing conditions analysis. Major findings from the survey among TUFL patrons include the following:

- The majority of respondents (72%) typically visit the library by using an automobile.
- Approximately 8% of respondents typically visit the library by walking, and 6% of respondents visit the library by bicycling.
- 95% of respondents who bike to TUFL park at the designated bicycle parking in front of the library.
- 88% of respondents think having convenient drive up book return is either important or very important to them.
- 69% of respondents think having free parking at the library is either important or very important to them.
- 42% of respondents combined their visit to the library with other destinations in Downtown Urbana: most notably to a bank, the food co-op, grocery stores (e.g. Schnucks), and Lincoln Square Village.
- 64% of respondents typically face at least some difficulties in finding parking spots while visiting the library.
- Approximately 4% of respondents turn around and visit another library as a result of difficulties in finding parking spots at TUFL.
- 47% of the respondents’ decision to visit TUFL was influenced (at least sometimes) by the availability of parking issue at TUFL.
- 95% of the respondents’ typical visits to TUFL last two hours or less.
- 75% of the respondents think TUFL should have additional parking for its patrons.
- Approximately 31% of respondents chose Lot A as their preferred future parking lot for TUFL, followed by Lot D (23%) and Lot F (22%).
• The highest percentage (42%) of responses was from the 25 to 44 age group, followed by the 45 to 64 age group (34%).

Major findings from the existing conditions analysis include the following:

• On typical weekdays, the most patrons visit TUFL between 4PM and 5PM.

• On a Saturday, the most patrons visit TUFL between 2PM and 3PM.

• Peak parking demand based on TUFL’s gross floor area was 101 parking spaces. TUFL currently has 52 parking spaces for its patrons.

• The existing main parking lot off Green Street has all the parking spaces at a 90 degree orientation and only head in parking is allowed. Parking stalls are 17 feet long and 9 feet wide. The maneuver space between two rows of parking is approximately 22 feet. Two-way travel on the passage between parking rows is allowed which makes parking maneuvering very challenging, especially for patrons with SUVs and minivans.

• Additional parking availability signs were not placed in an appropriate location.

• Book drop off boxes were not properly installed. Drop off boxes’ opening was 48 inches from the pavement. Dropping off books and other materials from a passenger car is challenging.

• Book drop off boxes are located at the passage to additional library parking. Vehicles at drop off boxes block access to additional parking for other patrons.

• Bicycle parking racks near the main entrance of the library off Green Street are old and not recommended by APBP, as these provide support for only one wheel of a bicycle.

• Bicycle parking racks on the east side of the main parking lot near Race Street are not easily accessible by the bicyclists traveling south as there is no curb cut on the west side of Race Street.

• Roadways and intersections near TUFL do not have any issue with congestion or lack of capacity.

• There were 3 crashes involving some injuries near TUFL between 2007 and 2011.
5.2 Recommendations

Major recommendations from the study include:

5.2.1 Parking and Book Drop off

The main parking lot off Green Street should be redesigned for facilitating easier and safer parking for patrons. Figure 22 shows the proposed layout of the main parking lot off Green Street.

Major changes shown in Figure 22 include:

- 60 degree parking space orientation instead of 90 degree for parking spaces on the west side of the entrance. Minimum dimensions of a parking space should be 18.5 feet length and 9 feet width.
- For the library patrons, the revised parking layout shows 40 parking spaces and 3 handicapped spaces in the main parking lot off Green Street.
- Relocation of handicapped parking spaces with one additional handicapped parking space.
- One-way traffic circulation between two parking rows. Minimum width of the aisle should be 14.5 feet.
- Relocation of book drop off boxes either on the west side or the north side of the library. If located on the west side of TUFL, drop off boxes should be located on the west side of the proposed circle drive accessible from Cedar Street, or on the north side of the library accessible from Elm Street. Drop off boxes’ opening should be 36 to 40 inches from the pavement surface.
- An additional 9 patron parking spaces would be available on the east side of the proposed circle drive on the west side of TUFL.
- Existing staff parking spaces (private, leased) on the west side of Cedar Street should be made available for patrons.
- Gravel parking spaces (private) on the east side of the main parking lot should be added to the existing parking.
- A mid-block crosswalk across Cedar Street should be installed and an enhanced sidewalk should be constructed from Cedar Street to TUFL’s main entrance.

Patrons should be allowed to park their vehicles at the main parking lot free for the first one hour. Parking should be free at the proposed new parking spaces for patrons off Cedar Street. TUFL staff parking should be shifted to the downtown parking deck which is located within one block of TUFL.

Book drop off boxes should be designed and installed considering the average height of passenger cars, and installation location should be carefully chosen to avoid inconvenience for patrons. Drop off boxes’ opening should be 36 to 40 inches from the pavement surface. TUFL and the City of Urbana should also consider the possibility of a book drop off location on the north side of TUFL off Elm Street.
Each parking lot should have adequate signs at the entrances describing parking rules and regulations clearly. Sign placement and design should follow the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) guidelines.

Figure 22: Proposed Parking Layout
5.2.2 Pedestrian and Bicycle Facilities

Proposed improvements for pedestrians and bicyclists are shown in Figure 23. As can be seen in Figure 23, bike ramps are proposed on the west side of Race Street for easy access to bike parking. An enhanced sidewalk is proposed from the main parking lot entrance off Green Street for the pedestrians. It is recommended to remove the current bike parking on the west side of the parking lot on the unpaved surface, and install upgraded bike parking on a paved surface on the east side of the parking lot. A decorative fence should be installed on the edge of the sidewalk east of TUFL (as shown in Figure 23) to prevent jaywalking.

Figure 23: Proposed Bicycle and Pedestrian Improvements
REFERENCES


APPENDIX A

Survey of Library Users

The Urbana Free Library strives to provide safe and easily accessible parking. Your input on this survey will help us improve our parking facilities. Completion of this survey should take approximately five minutes.

= Required question

1. What is your primary mode(s) of travel to the library?
   ■ Car (Drive my car)
   ■ Car (Ride with others)
   ■ Bus
   ■ Bicycle
   ■ Walk

2. If you drive your car to the library, where do you typically park?
   □ Library Parking Lot off Green Street
   □ Library Parking Lot off Cedar Street
   □ On-Street Parking
   □ Busey Bank Parking Lot
   □ Downtown Urbana Parking Deck
   □ Other (Please Specify)

If 'Other', please specify

3. If you bike to the Library, where do you park your bicycle?
   □ Bicycle Parking in front of the Library
   □ Bicycle Parking inside the Downtown Parking Deck
   □ Other (Please Specify)

If 'Other', please specify
4. How important are the following features to you? ■

<table>
<thead>
<tr>
<th>Feature</th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy and safe drop-off locations for passengers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signs at library parking entrance showing location of additional parking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenient drive-up book return</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Free Parking</td>
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<tr>
<td>Convenient bicycle parking and facilities</td>
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<tr>
<td>Improved pedestrian crossings at mid-blocks and intersections</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Wider spaces in the existing library lot</td>
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</tr>
</tbody>
</table>

5. Do you typically combine your trip to the Library with a visit to any other destination in downtown Urbana? ■

- Yes (Please Specify)
- No

If 'Yes', please specify

6. Please select the statement that best describes your typical parking experience at the Library. ■

- I have no problem finding a parking space.
- I have some problems finding a parking space.
- I often have problems finding a parking space.
- I hardly ever find a parking space.
- I never find a parking space.
- Other (Please Specify)

If 'Other', please specify
7. What do you typically do when a parking space is not available? ■

- Circle the parking lot until a space opens up
- Park one or two blocks away
- Park at a nearby business parking (Please specify below)
- Leave and return later
- Visit another library
- Other (Please Specify)

If 'Nearby Business' or 'Other', please specify

8. Does the availability of parking affect your decision to visit the Library? ■

- Often
- Sometimes
- Never

9. How important are the following features to you? ■

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel safe crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the streets to the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are sufficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>crosswalks around</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>the Library.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

10. Do you typically bring a child/children to the Library? ■

- Yes
- No

11. What is the typical duration of your library visit? ■

- 30 minutes or less
- 30 minutes to 2 hours
- 2 to 4 hours
12. Do you think the Library needs additional parking spaces for its patrons?
   - Yes (Please answer Question 13)
   - No (Skip to Question 14)

13. On the following map, please select your preferred location (e.g. Lot A) for additional parking.

14. Do you have any other concerns regarding parking and transportation to the library? Use the space below to share these with us.
15. Please select your age group (Optional).

- Up to 14
- 15-24
- 25-44
- 45-64
- 65+
APPENDIX B

Peak Period Parking Demand \( P = 1.48X + 27 \); \( X \) = GFA in 1,000 sq. ft.

\[ P = 1.48 \times 50 + 27 = 101. \]

**Injury Severity**

**A Incapacitating Injury** - Any injury, other than fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred. Inclusions: Severe lacerations, broken/distorted limbs, scull injuries, chest injuries, and abdominal injuries.

**B Nonincapacitating Injury** - Any injury, other than a fatal or incapacitating injury, which is evident to observers at the scene of the crash. Inclusions: lumps on the head, abrasions, bruises, and minor lacerations.

**C reported, not evident Injury** - Any injury reported or claimed which is not listed above. Inclusions: momentary unconsciousness, claims or injuries not evident, limping, complaints of pain, nausea, and hysteria.