**STUDY INTERSECTIONS**

Existing PM Peak Hour Operations

- 12 Intersections surrounding the St. Thomas campus were analyzed and represent the focus of the transportation study.
- Other signalized intersections from I-94 to the north to Highway 5 to the south, were also evaluated during event conditions.
- All intersections operate at an acceptable overall LOS D or better during peak hours. No significant issues were observed.

**EXISTING TRANSIT SERVICE**

- Route 21 – E/W along Marshall Ave/Lake St from downtown Saint Paul to Uptown
- Route 63 – E/W along Grand Ave/3rd St serving Metro Green Line, Macalester College, downtown Saint Paul, Sun Ray Transit Center
- Route 87 – N/S along Cleveland Ave serving U of MN campus and Metro Green Line
- St. Thomas Shuttle - Between Saint Paul and Minneapolis Campuses

**SAFETY ANALYSIS SUMMARY**

- No study intersections are above the critical crash rate, indicating no study intersection has a statistically significant crash problem.
• Project results in a net loss of 265 parking spaces

• Parking conditions on/near the St. Thomas Campus were analyzed during the peak non-event parking demand period (a weekday at 1 pm).

**PARKING DEMAND ANALYSIS**

<table>
<thead>
<tr>
<th></th>
<th>Available Supply</th>
<th>Relocated Parking</th>
<th>Surplus Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>259</td>
<td>173</td>
<td>86</td>
</tr>
</tbody>
</table>

While a parking surplus is expected, other factors such as ramp capacities, desired parking locations, and current parking restrictions should be considered.

Parking strategies to help decrease parking demand are summarized below:

• Issue Less Permits
• Increase Transit Incentives
• Expand St. Thomas Shuttle Service
• Encourage MSP Campus Parking
• Enhance Bike Storage
• Improvements
  - see *Event Parking* Board
**MEN’S HOCKEY:**
- Generally, 2 to 4 higher attendance games per year
- Highest Attendance = 4,500 (Bowling Green)
- Average attendance = 2,475

**MEN’S BASKETBALL:**
- Generally, 1 to 2 higher attendance games per year (rivalry games or later in season)
- Highest Attendance = 4,600 (USD)
- Average Attendance = 1,800

**WOMEN’S HOCKEY:**
- Beyond UM Duluth, attendances were generally consistent throughout the year
- Max Attendance = 2,750 (UM Duluth)
- Average Attendance = 550

**WOMEN’S BASKETBALL:**
- Generally, 1 to 2 higher attendance games per year (rivalry games)
- Highest Attendance = 3,100 (SDSU)
- Average Attendance = 1,175
**EVENT PARKING**

**EVENT PARKING DEMAND ANALYSIS**

<table>
<thead>
<tr>
<th>Total Number of Games (1)</th>
<th>Estimated Frequency</th>
<th>Available Supply</th>
<th>Demand (2)</th>
<th>Deficit/Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thursday/Weeknight Night Event</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Basketball (5,500)</td>
<td>4 to 7 BBall</td>
<td>678</td>
<td>1420</td>
<td>-742</td>
</tr>
<tr>
<td>Typical (3,000)</td>
<td>No Hockey</td>
<td>6</td>
<td>773</td>
<td>-95</td>
</tr>
<tr>
<td><strong>Friday Night Event</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Basketball (5,500)</td>
<td>1 BBall</td>
<td>1016</td>
<td>1420</td>
<td>-404</td>
</tr>
<tr>
<td>Max Hockey (4,000)</td>
<td>9 Hockey</td>
<td>2</td>
<td>1053</td>
<td>-37</td>
</tr>
<tr>
<td>Typical (3,000)</td>
<td></td>
<td>8</td>
<td>773</td>
<td>243</td>
</tr>
<tr>
<td><strong>Saturday Night Event</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Basketball (5,500)</td>
<td>6 BBall</td>
<td>1090 (3)</td>
<td>1420</td>
<td>-330</td>
</tr>
<tr>
<td>Max Hockey (4,000)</td>
<td>9 Hockey</td>
<td>0 - 1</td>
<td>1053</td>
<td>37</td>
</tr>
<tr>
<td>Typical (3,000)</td>
<td></td>
<td>2</td>
<td>773</td>
<td>317</td>
</tr>
</tbody>
</table>

---

**KEY TAKEAWAYS:**

- **Max Basketball events** (parking deficit of 330 to 740 spaces)
  - Vehicles will likely utilize public parking in the neighborhood.
  - Expected to occur 1 to 2 times a year, if at all.

- **Max Hockey Events** (deficit/surplus of 40 spaces, depending on night)
  - Vehicles may utilize public parking in neighborhood over NE quadrant of North Campus
  - Expected to occur 2 to 4 times a year.

- **Typical Events** (deficit of 100 on weeknights, surplus of 250+ on weekends)
  - Typical attendance is a conservative estimate compared to similar programs.
  - Most weekend events will have parking available in desirable locations.

---

**POTENTIAL PARKING STRATEGIES AND IMPROVEMENTS:**

**Strategies:**

- Restrict campus parking areas for event parking
- Require pre-paid event parking tickets (mobile) for all visitor lots
- Schedule higher attendance games on weekends

**Improvements:**

- Provide transit incentives with the purchase of a ticket
- Utilize restricted commuter and faculty/staff parking lots
- Form a partnership with a rideshare company
- Provide a shuttle service
- Communicate bicycle parking locations on the university website
- Provide overflow parking on the south athletic fields
- Study area two years after construction
- Expand Anderson Parking Facility (APF)
- Expand surface parking

---

(1) Based on expected men's hockey and basketball schedules.
(2) St. Thomas players/coaches and event staff are expected to park in the reconstructed lot O or other commuter and faculty/staff lots.
(3) Note nearby city permit parking restrictions are generally not in effect on Saturday.
### Event Assumptions and Trip Generation

<table>
<thead>
<tr>
<th>Max Capacity</th>
<th>Typical Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>5,500</td>
</tr>
<tr>
<td>Vehicle Trips</td>
<td>~1,400</td>
</tr>
</tbody>
</table>

### Key Assumptions:

**Vehicle Occupancy** = 2.75 persons/vehicle  
**Students** = ~22 percent of attendance (based on student seating)  
Modal Splits Assumptions summarized below

### MAX CAPACITY (5,500 Attendees) Event Modal Split Assumptions

<table>
<thead>
<tr>
<th>Transportation Modes for Students/Non-Students</th>
<th>Percent by Mode</th>
<th>Person Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>22%</td>
<td>1200</td>
</tr>
<tr>
<td>Non-Students</td>
<td>78%</td>
<td>4300</td>
</tr>
</tbody>
</table>

**Student Modal Split Assumptions**

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>Person Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Vehicle Trips</td>
<td>10%</td>
<td>120</td>
</tr>
<tr>
<td>Rideshare (Uber/Lyft/Taxi, etc.)</td>
<td>10%</td>
<td>120</td>
</tr>
<tr>
<td>Transit/Shuttle (Local Bus)</td>
<td>5%</td>
<td>60</td>
</tr>
<tr>
<td>Walk/Bike</td>
<td>75%</td>
<td>900</td>
</tr>
</tbody>
</table>

**Non-Student Modal Split Assumptions**

<table>
<thead>
<tr>
<th></th>
<th>Percent</th>
<th>Person Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Vehicle Trips</td>
<td>88%</td>
<td>3784</td>
</tr>
<tr>
<td>Rideshare (Uber/Lyft/Taxi, etc.)</td>
<td>5%</td>
<td>215</td>
</tr>
<tr>
<td>Transit/Shuttle (Local Bus)</td>
<td>2%</td>
<td>86</td>
</tr>
<tr>
<td>Walk/Bike</td>
<td>5%</td>
<td>215</td>
</tr>
</tbody>
</table>
Event Management Strategies

The following event management strategies were recommended to reduce pedestrian/vehicle conflicts, thus improving pedestrian safety and reducing event congestion:

A. Designate Pedestrian Routes through Cones, Barricades, and Signage
B. Utilize cones to facilitate two travel lanes during pre- or post-event conditions.
C. Provide internal wayfinding to/from the arena and APF
D. Implement Event Signal Timing
E. Provide Traffic Control Officers and/or construct Signal Timing Improvements
F. Provide Traffic Control Officers
G. Monitor Pedestrian Crossing

Operations with Mitigation

With mitigation, congestion/queuing is expected to occur for 20 to 30 minutes prior to the event.

**With mitigation, congestion/queuing is expected to occur for 20 to 30 minutes prior to the event.**