Introduction

Good evening and thank you for allowing me the opportunity to present tonight. My name is Jim Yuratovac, and I hold the position of Senior Project Manager at Thomas Engineering Group. I am a licensed Professional Engineer, certified as a Professional Traffic Operations Engineer (PTOE) and Road Safety Professional (RSP). I'm here to share the findings of our Village-wide Traffic Study. This study is not just a collection of data; it's a roadmap that aims to guide us toward a safer and more efficient transportation environment for the community. Our goal is to provide actionable insights that will serve as a foundation for future planning and infrastructure improvements.

Objectives and Methodology

The primary objective of this Study was to offer a comprehensive analysis of the current traffic conditions in the Village. Our overarching aim was to identify high-risk locations, assess the efficiency of existing traffic controls, and offer actionable recommendations for both immediate and long-term improvements.

All roadways in the Village were categorized into three distinct types: Arterial, Primary, and Local. Local streets are predominantly minor residential roads, whereas Primary streets are engineered to accommodate higher traffic volumes. Arterial routes are marked state routes with higher speeds. We did not review these locations in order to focus our effort on internal Village roads.

We performed traffic counts at 17 primary intersections, and supplemented those with counts at 6 additional intersections and multiple speed data collection locations.

By combining data-driven insights with practical solutions and community input, we aim to improve road safety, optimize traffic flow, and enhance the overall quality of life for Village residents.

Resident Feedback and Community Engagement

Community engagement played a pivotal role in shaping the objectives and outcomes of our Study. Early in the project, we issued a Survey Monkey survey to gather resident feedback on various traffic and safety topics. The survey served multiple purposes: it helped us identify focus areas and provided valuable insights into residents' concerns.

The survey results revealed a strong community interest in specific traffic calming measures, speed control, and pedestrian safety. This feedback was instrumental in refining our recommendations for improvements. Additionally, the survey provided valuable insights into the community's acceptance of various countermeasures, ensuring that our proposed solutions are not only effective but also closely aligned with the needs and preferences of Village residents.

In summary, the resident feedback gathered through the survey has been a cornerstone in our study. It has enabled us to create a more community-centric approach, ensuring that our recommendations are both data-driven and aligned with the values and concerns of the community. This dual focus ensures that our study's outcomes are not just technically sound but also socially acceptable, thereby increasing the likelihood of successful implementation.

Traffic Calming Toolbox

One of the standout components of our Village-wide Traffic Study is the development of a Traffic Calming Toolbox or TCT. This toolbox is a compilation of proven strategies and interventions designed to address a variety of traffic and safety concerns within the Village. It serves as a practical guide, offering solutions that range from simple signage adjustments to more complex engineering measures.

The toolbox was developed with a focus on flexibility and adaptability, allowing the Village to tailor solutions to specific issues or locations. Moreover, the TCT is not just a static document; it's designed to evolve. As the Village's needs evolve or new traffic management methods emerge, the toolbox can be adapted to incorporate these updated strategies. This ensures that the Village has a living, adaptable resource for addressing both current and future traffic and safety challenges.

The creation of this toolbox was guided by both data-driven insights from our comprehensive traffic and crash analyses, as well as community input gathered through our resident survey. By combining these elements, we've created a toolbox that is not only effective but also aligned with the needs and concerns of Village residents.

To utilize the TCT, a location is scored based on speeds, crash data, road characteristics and resident petitions. The toolbox provides four levels of improvements based upon the score. The more a countermeasure impacts the roadway the higher the level. For example, a level 1 improvement may be a sign installation, whereas a level 4 improvement might be a forced turn island.

The Traffic Calming Toolbox serves as a cornerstone for the Village's traffic management strategy, providing a robust set of tools for improving road safety, optimizing traffic flow, and enhancing the overall quality of life for residents.

Capacity Analysis

Another major component of our effort was to develop a comprehensive traffic model for the Village. The model's strength lies in its ability to simulate how intersections interact with each other, providing a holistic view of the Village's traffic system.

The model allows us to assess both the Level of Service (LOS) and delay, thereby identifying bottlenecks and areas of concern. For example, the all-way stop (AWS) intersection at Lathrop Ave and Division St, exhibited a failing LOS of E during the AM peak hour and LOS of D during the PM peak hour. Our simulations showed that converting this AWS to a signalized intersection could improve the LOS to a B. On the positive side, most intersections in the Village were found to be operating smoothly, although some individual movements were failing, particularly at minor leg stop locations or those with high numbers of left turns.

One of the key advantages of a Village-wide model is the ability to foresee how changes at one intersection can impact the broader network. This enables the Village to implement more effective countermeasures and avoid unintended consequences, like pushing traffic toward routes already operating near capacity.

Our capacity analysis serves as a dynamic tool for both immediate interventions and long-term planning. It allows the Village to identify traffic issues proactively and offers a data-driven foundation for future traffic management and infrastructure improvements.

Crash Analysis

Our crash analysis was conducted using 2016-2021 crash data from IDOT and encompassed every intersection and segment within the Village. Utilizing a proprietary in-house crash processing program, we categorized crashes based on various factors such as type, year, and injury severity.

To ensure a comprehensive understanding of the traffic safety landscape, we employed different peer groups in our analysis. For intersections, these included signalized, all-way stops, minor stop 3-leg, and minor stop 4-leg. For segments, we divided them into three categories: local, primary, and arterial, as previously mentioned. The peer groups allowed us to capture a representative cross-section of both intersection and segment types in the Village.

We then used a weighted scoring system, based on frequency and severity, to assign a score for every location. We identified 22 locations (or roughly the top 10%)—comprised of 9 segments and 13 intersections—for a more detailed analysis.

I won't go into all the crash details here, but many of the segments were found to be satisfactory and only 2 had recommended action. One is at Thatcher from Augusta to Division, which is covered separately and the other is at Division from Monroe to Bonnie Brae for which we are recommending a Speed Study.
4 of the intersections were also found to be satisfactory and 5 were on Thatcher or Washington which I will get to shortly. For Chicago & William we recommended a speed study. For the remaining 3 we are recommending a speed study in addition to: traffic count at Ashland & Lake to determine if a change in traffic control is appropriate. upgrading the crosswalk striping associated with the nearby school for Chicago & Jackson, and lastly for Lathrop & Division we are recommending the installation of a traffic signal.

Two-Block Span Analysis

There are numerous uncontrolled two-block spans in the Village that have concerns related to speeding and cut-through traffic. We focused on Ashland Ave between Madison St and Washington Blvd due to its high crash rate and resident complaints about speeding. The study aims to determine if changes are needed to make these spans less appealing for speeders and cut-through traffic.

We collected speed and volume data over a 24-hour period on all four legs of the intersection of Ashland Ave and Vine St. Analyzing the traffic volumes, we found directional split between NB and SB to be fairly even. The volumes are well within the range of what a residential road is capable of handling and no cause of concern for potential cut-through traffic. The 85th percentile speed was 22mph for northbound and 25mph for southbound, which are at/below the speed limit. Digging in a little deeper, we found there to be several hours of the day with speeding in the southbound direction. In particular, the afternoon hours had a cluster of speeding with 85th percentile values around 30mph. The crash analysis found a relatively low number of crashes within the corridor related to Ashland Ave. The crashes were all isolated events with no patterns or recurring issues.

We recommend a stepped approach starting with Level 1 improvements, such as a Speed Feedback sign and targeted speed enforcement. These measures are anticipated to address the limited speeding in the corridor. We anticipate that these conditions apply to other two-block span locations.

Washington Blvd

Washington Blvd, a major collector road in River Forest, has been a focal point for community concerns about speeding and underutilized parking. To address this, we conducted a focused study on the Washington corridor that included traffic volume and speed data collection, crash data analysis, and incorporated the resident survey. The road features one lane in each direction with on-street parking. There is a variety of traffic control including AWS, minor stop and signalized intersections. The surrounding area is primarily residential along with three nearby parks. Our study aims to identify an appropriate roadway cross-section, provide traffic calming measures, and improve safety and traffic flow.

We analyzed peak-hour traffic volumes at Thatcher Ave, Franklin Ave and Lathrop Ave. Washington Blvd is one of a limited number of bridges crossing the DesPlaines River and serves as an alternative to busier routes like North Ave and Madison Ave. Speed data showed that the 85th percentile speed was 38 mph, significantly above the 25 mph speed limit. This indicates a severe disparity between driver perception of the road and its intended design.

Our detailed crash analysis for the corridor found there were 101 crashes with Angle by far the most prominent type. Notably, Thatcher, Gale, Keystone, Ashland and Lathrop all had elevated crash rates. The crash analysis revealed varying patterns across different intersections. The frequency of angle crashes at AWS and signalized intersections raises significant concern regarding speeding and adherence to the traffic control. Overall, the analysis suggests a need for diverse safety measures, to address the unique challenges at each intersection.

We then incorporated the survey responses related to Washington. The majority of residents are open to eliminating some parking in order to provide traffic calming improvements. Speeding and disobeying stop signs were identified by most respondents as issues along the road.

Based on the analysis, we propose two new roadway cross-sections for Washington Blvd, with a transition point at Park Ave. The western cross section maintains parking along the north side of Washington Blvd, narrows the lanes to 11’ in each direction, and

provides a 3’ bike lane with 2’ buffer on the north and south side of the street. The eastern cross section will keep the current lane configuration from Park Ave to Lathrop Ave, but lanes will be reduced to 11’ widths with a 2-foot striped median and off-street multi-use paths. In addition, we recommend taking steps to mitigate speeding along this route by implementing some form of traffic calming. Our preference is to install raised intersections at Thatcher, Keystone, Franklin, and Lathrop. These physical obstacles force drivers to slow down and create more awareness at the intersection. Curb bump outs are also recommended at various intersections throughout the corridor and should be designed to not impact bike facilities.

Thatcher Ave

Thatcher Ave is a three-lane perimeter road in the Village. There are two southbound lanes and one northbound lane with parking along the east side of the road. Based on survey responses and crash rates we selected the northern portion of Thatcher Ave, between Division St and Augusta St, for in depth study as a representative sample for the corridor.

Both termini intersections were counted as part of our initial data gathering process and speed data was collected as part of this focus. Our study revealed that the 85th percentile speed was 41 mph, significantly higher than the posted speed limit of 25 mph. This discrepancy is particularly alarming as it indicates that a majority of drivers are comfortable driving at speeds well above the limit, posing safety risks for other road users.

The study also highlighted that the speed issue are more pronounced in the southbound lanes, with the 85th percentile speed reaching up to 44 mph. This could be attributed to the road's imbalanced lane configuration and the absence of features that naturally calm traffic.

To address these issues, we recommend several countermeasures. These include reducing southbound traffic to one through-lane, installing a bike lane as per the 2019 Comprehensive Plan, and introducing periodic raised intersections through the corridor. These measures aim to change the road's character, thereby encouraging drivers to adhere to the speed limit. We also considered the addition of a southbound auxiliary left turn lane to allow drivers to turn left at intersections or into their driveways without disrupting through traffic.

Our review determined Thatcher Ave will need a more focused corridor study to verify these issues continue through the corridor. Crash patterns at intersections along Thatcher Ave beyond the studied area are indicative of speeding issues remaining consistent through the corridor.

Conclusion

In summary, this study provides a comprehensive analysis of the traffic conditions and traffic safety in the Village. Outside of a few problem locations, most roads and intersections operate well and do not have existing safety concerns. Speeding definitely seems to be an issue at several locations and heavily influences many of our recommendations. Our recommendations aim to improve road safety and traffic flow, benefiting both residents and visitors to River Forest.