



## **Executive Summary**

### **Introduction**

Realizing the historical growth trends and potential safety deficiencies within Talbot County, the Talbot County Council has recognized the need and taken the initiative to undertake a comprehensive county-wide transportation planning study to quantify existing and future operations, highlight current and short-term operational and safety deficiencies, and identify corridors of concern.

Historical census data shows that the constituent demographics within the county are changing dramatically. Talbot County has always been a magnet of tourism; however, data shows that Talbot County is becoming a primary retirement community.

The primary purpose of the following county-wide transportation planning study is to provide the Talbot County Council the means to make informed fiscal decisions for existing, short-term (2015), and long-term (2030) infrastructure improvements.

Additionally, the Talbot County Council realized that proposed mitigation alternatives may impact State-maintained roadways; and therefore the Council commissioned this study to be formatted similar to a State Highway Administration Planning Study, so that future dialogue with the SHA is founded on accurate, concise, and comprehensive planning analyses.

The following comprehensive planning study is divided into two concise study focal points: capacity and operational analysis, and safety analysis.

### **Capacity and Operational Analyses**

To determine existing, short-term (2015), and long-term (2030) congestion and capacity needs, a total of 39 intersections and 16 corridors were identified as key study locations for detailed analyses.

The basis of any comprehensive transportation planning study is traffic data. Twelve hour turning movement counts were conducted at each of the 39 study intersections during the months of July and August in 2004 and 2005. The intersection data served as the basis for the corridor analyses as well. Since existing traffic data is the basis of any comprehensive transportation planning study, a rigorous effort was completed to validate the collected traffic data. The traffic data from the 39 study intersections was compared to available traffic trend figures provided by the State Highway Administration, and the collected data was within acceptable variances.

Accident data along County, Municipal, and State-maintained roadways within Talbot County was obtained from the Talbot County Department of Public Works and the State Highway Administration. The State Highway Administration was also contacted for the signal timing information for all studied signalized intersections within the county. Finally, a detailed inventory was completed of all major county roadways noting roadway width, lane width, shoulder width, lateral clearances, roadway cross-slopes, pavement condition, etc.

Capacity analyses of existing corridors and intersections were completed using two regionally and nationally recognized capacity analysis procedures: SHA's Critical Lane Technique, and Transportation Research Board's (TRB) Highway Capacity Analysis technique. Results of the



capacity analyses prove that the majority of the study intersections operate at acceptable Levels of Service 'C' or better. Detailed review of the existing conditions analyses demonstrates that visible capacity limitations are starting to become evident along US 50 and the main corridors intersecting US 50.

For the purpose of this comprehensive transportation planning study, two future analysis years (2015 and 2030) were selected with the goal of quantifying short-term impacts (i.e. mitigation requirements within a 10-year period), and long-term impacts (i.e. mitigation requirements within a 25-year period). Future development data was acquired from the towns within Talbot County and served as the basis for short-term (2015) projected traffic figures. Traffic generated from known developments was distributed to the Talbot County roadway system based on a rigorous analysis of county trip distribution trends which quantified external-to-internal, internal-to-external, internal-to-internal, and external-to-external trips.

Since the majority of the known development will occur within the next five to ten years, long-term 2030 traffic volumes were quantified by applying a growth rate to the 2015 numbers.

The above data was entered into a nationally recognized comprehensive computer-based transportation planning package (QRS) to model future traffic trends. The QRS program is ideally suited to model trip diversions due to highly congested roadways.

Intersection and corridor capacity analyses were completed for each study location under short-term (2015) and long-term (2030) traffic conditions. General traffic patterns highlighted under existing conditions became more severe. The study intersections along US 50 become significantly impacted by future volumes; while the majority of the county-controlled intersections continue to maintain acceptable levels of service under future analysis conditions.

### **Safety Analyses**

The County and SHA provided accident data, and the county roadway inventory served as the basis of the comprehensive safety analyses. After a complete review of the accident data, several significant patterns become evident. Primarily, the number of non-intersection/corridor accidents are significantly higher than intersection related accidents (85% / 15%), and fixed-object collisions are significant at nearly 40% of the total accident types. These accident patterns are representative of a mainly rural county. However, these patterns also highlight issues with general condition and design of roadways throughout the county.

The comprehensive roadway inventory showed that the majority of the county-maintained roadways, which predate the current County roadway design standard, are not to current nationally recognized roadway design standards and guidelines. Roadway widths, cross slopes, clear zones, drop-offs, and obstruction protection are consistently below minimum requirements.

Coupling the accident statistics with the general County roadway characteristics provide proof that the County's minimum roadway design guidelines (standard details) need to be thoroughly reviewed for consistency with current design recommendations, and site specific/corridor specific analyses should be completed to properly gauge the magnitude of recommended upgrades.

Full redesign of all County roads that do not meet current minimum design guidelines is not fiscally responsible. However ensuring that future road improvements and new road construction meet the current minimum design guidelines is the foremost recommendation resulting from the safety analyses.



## **Summary**

Talbot County currently does not suffer from significant roadway congestion problems. However, the traffic data clearly lends proof that the SHA maintained roadways contribute to the majority of the congestion within the county. US 50 clearly disconnect Talbot County during the summer months making east-west travel across the county cumbersome. Circulation for local residents, and emergency vehicles is severely impacted by the congestion along the major state-maintained roadways in the County. Future short-term and long-term analyses further emphasize that the congestion problems along these major corridors will become worse.

The county roadway inventory and accident data analyses show that the County's primary concern should be focused on improving roadway safety. Improving roadway widths to provide adequate room for vehicular and recreational (bicycle and pedestrian) traffic should be a primary concern. Significant roadway drop-offs and obstructions should be properly protected. The continued demographic changes which the County will experience over future years will further emphasize the importance of addressing the safety of the County's roadways.

The State Highway Administration has the Talbot County priority projects listed in their Consolidated Transportation Program, and Talbot County does coordinate with SHA their recommended improvements to the State-maintained roadways within the County on a yearly basis. The Transportation Study will give Talbot County a better means to convey these improvements and initiate dialogue that may place the County's concern higher on SHA's priority list.

## **Recommendations**

Based on the deficiencies found in the operational analysis, the following intersections are in need of improvements:

### **Existing Needs**

- Site 12 – US 50 at MD 322
- Site 18 – MD 331 at Black Dog Alley
- Site 19 – US 50 at Dutchman's Lane
- Site 27 – US 50 at MD 404
- Site 33 – US 50 at MD 328
- Site 34 – US 50 at MD 331

### **Short Term Needs (2015)**

- Site 6 – MD 322 at MD 333
- Site 8 – MD 33 at MD 322
- Site 12 – US 50 at MD 322
- Site 13 – US 50 at Airport Rd/MD 309
- Site 16 – MD 328 at Black Dog Alley
- Site 27 – US 50 at MD 404



Long Term Needs (2030)

- Site 14 – MD 309 at Black Dog Alley
- Site 19 – US 50 at Dutchman’s Lane
- Site 27 – US 50 at MD 404
- Site 32 – US 50 at Chapel Road
- Site 39 – US 50 at MD 565/Landing Neck Road

Based on the deficiencies found in the operational analysis, the following corridors are in need of improvements:

Existing Needs

- Corridor E – MD 33 from Station Road to MD 322
- Corridor G – MD 33 from MD 579 to Boundary Lane
- Corridor L – MD 331 from US 50 to County Line
- Corridor M – MD 328 from US 50 to Black Dog Alley
- US 50 – Within Easton town limits

Short Term Needs (2015)

- Corridor H – MD 333 from MD 322 to Llandaff/Baileys Neck Road
- Corridor M – MD 328 from Black Dog Alley to Lewistown Road
- US 50 – Outside town limits
- MD 322 – US 50 north to MD 333

Long Term Needs (2030)

None