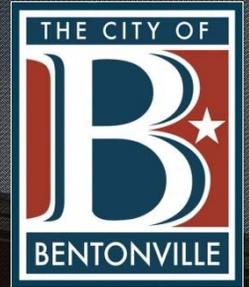




City Wide Traffic Study

Volumes 1-4 – Final Report



Prepared For:

City of Bentonville

January 8, 2014





Engineer's Certification

I hereby certify that this Bentonville City Wide Traffic Study – Final Report was prepared by Garver under my direct supervision for the City of Bentonville.

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1-8-14





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1.0 Executive Summary

At the request of the City of Bentonville, a city wide traffic study was conducted. The goal of this study was to develop short-term (0–5 years), mid-term (5-10 years), long-term (10-15 years) and future (15-20 years) projects. Additionally, the existing city documents were reviewed to ensure consistency both within the documents as well as with state and national standards. The study was divided into four volumes – Volume 1 – Review of City Documents, Volume 2 – Preliminary Analysis, Volume 3 – Final Analysis, and Volume 4 – Future Corridors.

Based on the results of these four volumes, the following projects should be included in the City of Bentonville’s Capital Improvement Projects. Some of the intersections are included in both the short-term as well as the mid-term improvements. This is due to an immediate need for improvement prior to a corridor project.

1.1 Short-Term Projects (0-5 Years)

- N Walton Boulevard at Tiger Boulevard/NW 12th Street (intersection project)
- N/S Walton Boulevard at W Central Avenue (intersection project)
- SE Walton Boulevard at Medical Center Parkway (intersection project)
- John DeShields Boulevard/Museum Way at NE J Street (intersection project)
- E Central Avenue at NE J Street/SE J Street (intersection project)
- SW 2nd Street at Elm Tree Road (intersection project)
- SE 14th Street at SE Phyllis Street (intersection project)
- SE 28th Street at SE J Street (intersection project)
- SE 28th Street at Medical Center parkway (intersection project)

1.2 Mid-Term Projects (5-10 Years)

- NW 5th Street (corridor project) with N Walton Boulevard at Wal-Mart Drive (intersection project) and NW 5th Street at Bella Vista Road (intersection project)
- SW 2nd Street (corridor project) with SW 2nd Street at Elm Tree Road (intersection project)
- SW 10th Street (corridor project) with S Walton Boulevard at Redbud Street (intersection project) and SW 10th Street at SW A Street (intersection project)
- SE/SW 14th Street (corridor project) with SE 14th Street at SE Phyllis Street (intersection project)
- SE/SW 28th Street (corridor project) with SE 28th Street at SE J Street (intersection project) and SE 28th Street at Medical Center parkway (intersection project)
- NE/NW J Street (corridor project) with E Central Avenue at NE J Street/SE J Street (intersection project)
- E Central Avenue (corridor project)
- W Central Avenue (corridor project) with N/S Walton Boulevard at W Central Avenue (intersection project)
- Tiger Boulevard at Bella Vista Road (intersection project)





- N/S Walton Boulevard (corridor project) with SE Walton Boulevard at Medical Center Parkway (intersection project)

1.3 Long-Term Projects (10-15 Years)

- SE/SW 14th Street (corridor project)
- N/S Walton Boulevard (corridor project)

1.4 Future Projects (15-20 Years)

- NW A Street (corridor project)
- SW A Street (corridor project)
- E Battlefield Boulevard (corridor project)
- Been Road (corridor project)
- Bright Road (corridor project)
- Bella Vista Road (corridor project)
- Moberly Lane (corridor project)
- Tiger Boulevard (corridor project)

The following pages summarize each of the reports and describe in more detail the recommended improvements.





2.0 Review of City Documents

The purpose of the *Review of City Documents* portion of the city wide traffic study in Bentonville was to ensure consistency among the city documents as well as conformity to state and national standards. The following topics were considered and recommendations provided.

2.1 Review Existing and Programmed Street Improvement Projects

The review of the existing and programmed street improvement projects validated projects that are currently in the design phase and considered planned projects to determine if they are currently needed. Most of the projects listed as planned from the previous *2002 Streets Capital Improvements Plan* should still be considered for future projects but not necessarily as part of a 10-year plan. The exceptions are as follows:

- **SE/SW 8th Street between SW I Street and a new interchange to I-540** – This project was validated in the *Preliminary Analysis*
- **SW Regional Airport Boulevard from Shell Road to S Walton Boulevard** - This project was validated in the *Preliminary Analysis*
- **SE Walton Boulevard and I-540 interchange improvements** – The Arkansas State Highway and Transportation Department (AHTD) has studied this interchange and is providing the improvements
- **SE 14th Street at I-540 interchange** – The AHTD is providing improvements at this interchange
- **SE Walton Boulevard Traffic Signals** – Coordination was recommended in the *Final Analysis*

2.2 Update Functional Classifications

For the most part, the existing functional classifications assigned by the city (freeways, major arterials, minor arterials, collector streets, local streets, and residential streets) should be maintained mainly due to the connectivity provided by the arterials and collectors. There were a few exceptions where changes are needed. These exceptions are listed below.

- **SW 2nd Street from the western city limits to W Central Avenue** – Classification should be lowered from a major arterial to a minor arterial
- **W Central Avenue from SW 2nd Street to N/S Walton Boulevard**– Classification should be lowered from a major arterial to a minor arterial
- **E/W Central Avenue from N/S Walton Boulevard to NE/SE J Street** – Classification should be lowered from a major arterial to a collector
- **E Central Avenue from NE/SE J Street to the eastern city limits** – Classification should be lowered from a major arterial to a minor arterial
- **SW Elm Tree Road from SW 14th Street to SW 2nd Street** – Classification should be lowered from a major arterial to a minor arterial
- **SW 14th Street from the western city limits to Greenhouse Road** – Classification should be raised from a minor arterial to a major arterial





- **SE 28th Street from Moberly Lane to the eastern city limits** – Classification should be raised from a minor arterial to a major arterial
- **SE Walton Boulevard from SW Regional Airport Boulevard to I-540** – Classification should be raised from a minor arterial to a major arterial

2.3 Review Existing City Documents for Continuity

Numerous city documents were reviewed and compared to each other to ensure that all of the documents were in agreement. A number of inconsistencies were found during this review with regards to right-of-way widths, back-of-curb widths, buffer widths, and pavement markings. The following is a list of updates that are needed.

- **Right-of-Way** – The *2009 Master Street Plan* is the latest city document and therefore should be considered the governing document. For that reason, the right-of-way widths shown in the *2003 Subdivision Code*, the *2006 Minimum Standard Specifications*, and the *2007 General Plan* should be amended to match the *2009 Master Street Plan*.
- **Back-of-Curb** – The *2009 Master Street Plan* is the latest city document and therefore should be considered the governing document. For that reason, the back-of-curb widths shown in the *2003 Subdivision Code*, the *2006 Minimum Standard Specifications*, and the *2007 General Plan* should be amended to match the *2009 Master Street Plan*.
- **Buffer Widths for Sidewalks** – Although the *2009 Master Street Plan* is not the latest city document with information on buffer widths, for consistency it should be considered the governing document. Therefore, the buffer widths shown in the *2006 Minimum Standard Specifications*, the *2011 Residential Development & Building Guide*, and the *2012 Bentonville Bicycle & Pedestrian Master Plan* should be amended to match the *2009 Master Street Plan*.
- **Pavement Markings** – Inconsistencies in the pavement markings for shared lanes were found within the *2012 Bentonville Bicycle & Pedestrian Master Plan*. This document should be updated to eliminate the inconsistencies with preference going to dimensions matching the *Manual on Uniform Traffic Control Devices (MUTCD)*.

2.4 Evaluate Existing Roadway Design Standards

The existing roadway design standards were compared to state and national standards with regards to lane widths and number of lanes, design speed, horizontal alignment (minimum centerline radii, curb return radii, angles between intersections), vertical alignment (vertical curves and maximum and minimum grades), driveways, medians, and cross sections. Based on this review, the following recommendations were made.

- **Lane Widths and Number of Lanes** – Aside from the conflicting information in city documents, the lane numbers and widths meet AASHTO's *A Policy on Geometric Design of Highways and Street, 6th Edition (Green Book)* standards.



- **Design Speed** – The design speed for collectors should be raised to a minimum of 30 mph as recommended by the *Green Book*. Additionally, it is recommended that information for arterial design speeds be added to the city's *Minimum Standard Specifications for Streets (2006)*.
- **Horizontal Alignment** – The horizontal alignment was evaluated for minimum centerline radii, curb return radii, and angles between intersections. The *Minimum Standard Specifications for Streets (2006)* should be changed to follow the minimum centerline radii described in the *Green Book*. Additionally, the current minimum curb return radius guidelines for arterials should be changed where heavy truck traffic volume is expected.
- **Vertical Alignment** – The vertical alignment was evaluated for vertical curves and maximum and minimum grades. It is recommended that K value standards for design speeds ranging from 15 mph to at least 55 mph be added or a reference to the *Green Book* be included. For the 35 mph crest vertical curve, the K value range should be replaced with a specific number as opposed to a range. Consideration should also be given to adding guidelines for maximum change in grade that does not require a vertical curve. The city should provide more detailed guidelines for maximum and minimum grades based on design speed and terrain as shown in the *Green Book*. The city should also consider adding a guideline concerning preferred maximum grades of roads with adjacent pedestrian facilities.
- **Driveways** – To create uniformity of design, standard detail drawings for commercial drives and residential drives should be developed. The *City of Bentonville Subdivision Code* should be modified to limit the algebraic difference of grades for driveways on local streets to 9% per the *NCHRP REPORT 659*.
- **Cross Slope** – No changes are needed.
- **Medians** – The city's median guidelines should be included with the other street guidelines in the *Minimum Standard Specifications for Streets (2006)*. The city should also develop and include standard detail drawings and notes for median widths, openings, end-treatments, and types.

2.5 Evaluate Existing Pedestrian Facility Standards

The existing pedestrian facility standards with regards to sidewalk and buffer width, grade and cross slope of sidewalk, crosswalks and stop/yield lines, curb ramps, midblock crossings, and crossing islands and medians for pedestrian crossings were compared to state and national standards. Based on this review, the following recommendations were made.

- **Sidewalk and Buffer Widths** – The discrepancies of buffer width guidelines between city documents should be resolved.
- **Grade and Cross Slopes** – Specific details from the *ADA* guidelines such as maximum grades in sidewalks would reinforce requirements to the designer and should be added to the city's standards. Additionally, clarification of the requirement that sidewalks adjacent to streets should be at an elevation 1% above the adjacent curb is needed.
- **Crosswalks and Stop/Yield Lines** – A typical crosswalk detail drawing is needed to reduce options for crosswalk types, line widths, and spacing distances. The *AHTD* standard crosswalk is recommended. City standards should note that a 4' minimum distance is required from the stop line to nearest crosswalk line except at midblock crosswalks.

- **Curb Ramps** – Standard detail drawings of the approved curb ramps and types that adhere to AHTD and national standards should be developed. Language should be added to the *Minimum Standard Specifications for Streets (2006)* that discourages the use of diagonal type curb ramps.
- **Mid-Block Crossings** – The requirement that stop bars be used at all midblock crossings should be removed from the *Bentonville Bicycle & Pedestrian Master Plan (2012)*. Yield triangles should be allowed at midblock crossings if used in conjunction with proper signage as directed by the *MUTCD*. Finally, guidelines for the design and implementation of illuminated indicators should be included in the city documents.
- **Crossing Islands and Medians** – Standard detail drawings and notes for pedestrian crossing islands and medians are recommended.

2.6 Evaluate Existing Bicycle Facility Standards

The existing standards for bicycle facilities were compared to state and national standards with regards to on-road bicycle facilities (bicycle lanes and shared lanes) and off-road bicycle facilities (shared use paths and side paths). Based on this review, the following recommendations were made.

- **On-Road Bicycle Facilities** – The *Bentonville Bicycle & Pedestrian Master Plan (2012)* minimum usable width requirement of 40" does not meet *AASHTO Guide* standards of 4' usable width and should be updated. Inconsistencies within the *Bentonville Bicycle & Pedestrian Master Plan (2012)* should be corrected. It is recommended that a minimum 6' wide bicycle lane be required when adjacent to curb and gutter as measured from the face of the curb to the center of the bicycle lane line. The city's guidelines incorrectly state that shared road symbols should be installed on bicycle lanes and should be updated to show bicycle lane symbol markings. The "Bicycle Detector Pavement Marking" shown in *Bentonville Bicycle & Pedestrian Master Plan (2012)* is incorrectly shown and should be corrected.
- **Off-Road Bicycle Facilities** - The city requirement of 2' graded shoulders meets minimum *AASHTO Guide* standards but not the *AASHTO Guide* preferred 3' to 5' shoulder width. It is recommended that wider shoulder widths with a 1V:6H maximum slope be used where feasible. Design speed and minimum centerline radii guidelines and reference to the *AASHTO Guide* for minimum lateral clearances around horizontal curves should be included in the *Bentonville Bicycle & Pedestrian Master Plan (2012)*. 5% grades or flatter should be highly encouraged where possible, but where unavoidable, the *AASHTO Guide* recommendations should be followed. A minimum grade of 0.5% is recommended for inclusion in the *Bentonville Bicycle & Pedestrian Master Plan (2012)*. The guideline stating that a crowned shared use path with a 2% cross slope is not acceptable and that the maximum cross slope of a crowned shared use path is 1% should be added. The city's minimum buffer width of 3' should be changed to 5' as measured from face of curb to side path in order to meet the recommended guidelines. If a 3' minimum buffer is maintained, a 42" minimum height physical barrier or railing should be added. The city should not allow proposed side paths to be less than 10' unless side paths meet the exceptions given in the shared path section of this document.



2.7 Proposed Typical Street Sections

Typical sections were prepared for each functional classification. Additionally, variations for pedestrian and bicycle facilities were included.

- **Arterial Streets** – Typical sections were developed for arterial streets and arterial boulevards that included sidewalks on both sides, sidewalks and bike lanes on both sides, and sidewalk on one side and side path on one side.
- **Collector Streets** – Typical sections were developed for collector streets with and without parallel parking that included sidewalks on both sides, sidewalks and bike lanes on both sides, and sidewalk on one side and side path on one side.
- **Local Streets** – Typical sections for local streets included sidewalks on both sides.
- **Residential Streets** – Typical sections for local streets included sidewalks on both sides.





3.0 Preliminary Analysis

The purpose of the preliminary analysis for the city wide traffic study in Bentonville was to analyze the existing transportation system to identify intersection locations for detailed analysis. These locations will be evaluated in the final analysis. The scope of services for the preliminary analysis consisted of data collection, analysis of existing conditions, and coordinating with the city to determine the locations for further study.

Information for traffic and crash data was obtained from a variety of sources including the City of Bentonville and the Arkansas State Highway and Transportation Department (AHTD). Additionally, previous traffic studies within the past 10 years were reviewed. With this information a total of 84 intersections were studied for the preliminary analysis.

Garver identified capacity and safety problems at the study intersections. The existing conditions were analyzed to identify any operational problems based on delay, level of service (LOS), and capacity versus traffic demand. The capacity needs were identified through *Synchro* software analysis and by travel time runs. Safety issues were identified by determining the crash frequency at the study intersections.

The list was based on LOS from the *Synchro* analysis, approach delay from travel time runs, high crash frequency, growth rate, and observations.

In analyzing existing conditions and developing recommendations, a number of indicators were examined, including: growth, delay and level of service (LOS) from *Synchro* traffic models, delay and LOS from travel time runs, and number of crashes. Performance indicators were compared in order to rank and narrow down locations for further analysis. A total of 36 critical intersections were identified. "Committed" projects that are programmed/funded for future development were considered which eliminated 13 of the recognized intersections.

Based on the findings from the preliminary analysis and discussion with the City of Bentonville, fourteen intersections were recommended for further review in the *Final Analysis*. These intersections are listed in **Section 4.0 – Final Analysis**.



4.0 Final Analysis

For the final analysis of the Bentonville city wide study, Garver conducted an in depth evaluation of fourteen intersections and developed planning level cost estimates for each intersection. The fourteen intersections evaluated were as follows:

- N Walton Boulevard (Hwy 71B) at Tiger Boulevard/NW 12th Street
- N Walton Boulevard (Hwy 71B) at Wal-Mart Drive
- N/S Walton Boulevard (Hwy 71B) at W Central Avenue
- S Walton Boulevard (Hwy 71B) at Redbud Street
- SE Walton Boulevard (Hwy 71B) at Medical Center Parkway
- John DeShields Boulevard/Museum Way at NE J Street
- Tiger Boulevard at Bella Vista Road
- NW 5th Street at Bella Vista Road
- E Central Avenue at NE J Street/SE J Street
- SW 2nd Street (Hwy 72) at Elm Tree Road
- SW 10th Street at SW A Street
- SE 14th Street (Hwy 102) at SE Phyllis Street
- SE 28th Street at SE J Street
- SE 28th Street at Medical Center Parkway

The analysis included collection of updated traffic counts during AM and PM peak periods, future traffic volume projections, crash analysis, stop control analysis, operational analysis, geometric analysis, and development of planning level costs.

The following recommendations were made at each intersection.

4.1 N Walton Boulevard at Tiger Boulevard/NW 12th Street

Several short-term (0-5 years) improvements are recommended at the intersection to counteract the future conditions. These improvements need to be done before improvements at the intersection of Tiger Boulevard at Bella Vista Road.

- Provide a 150' left turn lane on the eastbound approach
- Provide a 350' left turn lane on the westbound approach (could be striped for a TWLTL)
- Provide right turns with channelized islands for eastbound and westbound approaches
- Add flashing yellow arrow signal heads for northbound and southbound left turn movements
- Add pedestrian signals on all four corners when the N Walton Development Project is constructed
- Provide better turning radii for northbound and southbound right turns
- Modify/replace the existing signals to allow for the widening
- Restripe the northbound and southbound TWLTL's to include a minimum of 100' storage with 100' gap when overlays or other improvements occur on N Walton Boulevard



4.2 N Walton Boulevard at Wal-Mart Drive

The mid-term (5-10 years) recommendations are listed below. These improvements should occur when NW 5th Street is extended to N Walton Boulevard.

- Modify striping for the eastbound right turn lane to be utilized as a shared thru/right lane
- Construct the westbound NW 5th Street to include a 175' left turn lane
- Provide permitted only left turn signalization for the eastbound and westbound left turn movements
- Add flashing yellow arrow signal heads for northbound and southbound left turn movements
- Add pedestrian signals on all four corners when the N Walton Development project is constructed
- Modify/replace the existing signals to allow for the addition of the NW 5th Street leg
- Restripe the northbound and southbound TWLTL's to include a minimum of 100' storage with 100' gap when overlays or other improvements occur on N Walton Boulevard

4.3 N/S Walton Boulevard at W Central Avenue

This intersection is in need of both short-term improvements as well as mid-term improvements. The short-term (0-5 years) improvements are as follows:

- Provide a 100' right turn lane for eastbound, westbound and southbound approaches
- Provide 250' dual left turn lanes for the eastbound approach
- Provide 175' dual left turn lanes for the westbound approach
- Provide a 125' right turn lane for the northbound approach
- Add flashing yellow arrow signal heads for the northbound and southbound left turn movements
- Add pedestrian signals on all four corners when the N Walton Development Project is constructed
- Modify/replace the existing signals to allow for the additional turn lanes
- Restripe the northbound and southbound TWLTL's to include a minimum of 100' storage with 100' gap when overlays or other improvements occur on N Walton Boulevard

The mid-term improvements (5-10 years) are as follows:

- Widen W Central Avenue to two through lanes in each direction to the extent possible - space constraints may make widening to the east side (beyond simply adding turn lanes) difficult, thus the east leg could taper back to a two-lane route as fast as possible after the intersection if necessary
- Provide 350' dual left turn lanes for the eastbound approach
- Provide 175' dual left turn lanes for the westbound and southbound approaches
- Provide 200' dual left turn lanes for the northbound approach
- Provide a 100' right turn lane for eastbound, northbound and southbound approaches
- Provide a 150' right turn lane for the westbound approach
- Modify/replace the existing signals to allow for widening





4.4 S Walton Boulevard at Redbud Street

Immediate improvements are not needed, but traffic is likely to increase with the development of buildings such as the nine-story office and hotel. Additionally, the extension of SW 10th Street to Redbud Street would also increase traffic. To coincide with the SW 10th Street extension, the following mid-term (5-10 years) improvements are recommended as follows:

- Provide a 375' left turn lane on the westbound approach or if SW 10th Street is extended, provide a TWLTL
- Add flashing yellow arrow signal heads for northbound and southbound left turn movements
- Upgrade the wheelchair ramps on the west side of the intersection

4.5 SE Walton Boulevard at Medical Center Parkway

The intersection of SE Walton Boulevard at Medical Center Parkway is in need of both short-term improvements as well as mid-term improvements to accommodate future traffic volumes. The short-term (0-5 years) improvements are as follows:

- Provide a 225' left turn lane for the northbound approach
- Provide a 200' left turn lane for the southbound approach
- Provide a 100' right turn lane for eastbound and northbound approaches
- Add flashing yellow arrow signal heads for the left turn movements
- Ensure that crosswalks are legible on all four approaches
- Modify/replace the existing signals to allow for the additional turn lanes

The mid-term improvements (5-10 years) are as follows:

- Widen SE Walton Boulevard to three through lanes in each direction
- Provide 175' dual left turn lanes for the northbound approach
- Provide 150' dual left turn lanes for the southbound approach - when providing dual lefts on the southbound approach, add the new lane to the outside and stripe as a right turn lane so that one of the upstream lanes becomes a thru lane at the intersection and the other upstream approach lane becomes a left turn lane at the intersection
- Provide a 100' right turn lane for eastbound, northbound and southbound approaches
- Provide a 175' right turn lane for the westbound approach
- Modify/replace to the existing signals to allow for widening



4.6 John DeShields Boulevard/Museum Way at NE J Street

Due to the heavy growth generated from the Crystal Bridges Museum of American Art and the planned Children's Museum as well as soccer game traffic, short-term (0-5 years) improvements are recommended as follows:

- Install a single lane roundabout with a northbound right turn bypass lane – the design should accommodate buses as well as WB-67 trucks.

4.7 Tiger Boulevard at Bella Vista Road

Immediate improvements are not needed. However, mid-term (5-10 years) improvements are recommended as follows:

- Install a single lane roundabout.

This intersection improvement should be done after improvements to the intersection of Walton Boulevard and Tiger Boulevard have been completed.

4.8 NW 5th Street at Bella Vista Road

Immediate improvements are not needed. However, mid-term (5-10 years) improvements are recommended as follows:

- Install a single lane roundabout

The installation of the roundabout on NW 5th Street at Bella Vista Road should be tied into the NW 5th Street extension project.

4.9 E Central Avenue at NE J Street/SE J Street

This intersection is in need of both short-term improvements as well as mid-term improvements. The short-term (0-5 years) improvements are as follows:

- Provide 275' dual left turn lanes for the westbound approach
- Extend the northbound left turn lane to 100'
- Extend the southbound left turn lane to 250'
- Provide a 100' right turn lane for the eastbound approach
- Add flashing yellow arrow signal heads for all but the westbound left turn movement
- Modify/replace the existing signals to allow for the additional turn lanes



The mid-term improvements (5-10 years) are as follows:

- Widen NE J Street to two through lanes in each direction
- Convert the current eastbound right turn lane to a shared thru/right lane
- Extend the dual westbound left turn lanes to 325'
- Extend the northbound left turn lane to 150'
- Convert the current northbound right turn lane to a shared thru/right lane, and add an additional right turn lane
- Extend the southbound left turn lane to 450'
- Add a southbound right turn lane and convert the existing right turn lane to a thru lane
- Modify/replace the existing signals to allow for widening

4.10 SW 2nd Street at Elm Tree Road

The intersection of SW 2nd Street at Elm Tree Road is in need of both short-term improvements as well as mid-term improvements to accommodate future traffic volumes. The short-term (0-5 years) improvements are as follows:

- Provide 100' right turn lanes to the eastbound, northbound, and southbound approaches
- Provide a 100' left turn lane for the northbound approach
- Extend the southbound left turn lane to 150'
- Remove the split phasing
- Add flashing yellow arrow signal heads for all left turn movements
- Modify/replace to the existing signals to allow for the addition of the right turn lanes

The mid-term improvements (5-10 years) are as follows:

- Widen SW 2nd Street to two thru lanes in each direction
- Provide a 200' left turn lane for the eastbound approach
- Provide a 100' left turn lane for the westbound approach
- Provide a 300' left turn lane for the northbound approach
- Provide a 200' left turn lane for the southbound approach
- Provide a 100' right turn lane for the eastbound, westbound, northbound, and southbound approaches
- Modify/replace the existing signals to allow for widening



4.11 SW 10th Street at SW A Street

To coincide with the SW 10th Street extension, the following mid-term (5-10 years) improvements are recommended as follows:

- Install a single lane roundabout

4.12 SE 14th Street at SE Phyllis Street

The intersection of SE 14th Street at SE Phyllis Street is in need of both short-term improvements as well as mid-term improvements to accommodate future traffic volumes. The short-term (0-5 years) improvements are as follows:

- Construct islands on the northbound and southbound approaches to allow right-in/right-out only movements

The mid-term improvements (5-10 years) are as follows:

- Access management strategies are needed along the corridor

4.13 SE 28th Street at SE J Street

This intersection is in need of both short-term improvements as well as mid-term improvements. The short-term (0-5 years) improvements are as follows:

- Provide a 100' right turn lane for the eastbound, westbound, northbound, and southbound approaches
- Add flashing yellow arrow signal heads for the northbound and southbound left turn movements
- Modify/replace the existing signals to allow for the addition of the right turn lanes

The mid-term improvements (5-10 years) are as follows:

- Widen SE 28th Street to two through lanes in each direction
- Provide 125' dual left turn lanes for the northbound approach
- Provide 300' dual left turn lanes for the southbound approach
- Provide a 100' right turn lane for the eastbound, westbound, northbound, and southbound approaches
- Modify/replace the existing signals to allow for widening



4.14 SE 28th Street at Medical Center Parkway

The intersection of SE 28th Street at Medical Center Parkway is in need of both short-term improvements as well as mid-term improvements to accommodate future traffic volumes. The short-term (0-5 years) improvements are as follows:

The short-term (0-5 years) improvements are as follows:

- Provide a 100' right turn lane for the eastbound approach
- Provide a 150' left turn lane for the northbound approach
- Modify/replace the existing signals to allow for the additional turn lanes
- Restripe the eastbound and westbound TWLTL's to include a minimum of 100' storage with 100' gap when overlays or other improvements occur on SE 28th Street

The mid-term improvements (5-10 years) are as follows:

- Widen SE 28th Street to two through lanes in each direction
- Provide a 100' right turn lane for the eastbound approach
- Provide a 200' left turn lane for the northbound approach
- Modify/replace the existing signals to allow for the widening

The recommended mid-term improvements should coordinate with the overall project to widen SW/SE 28th Street from S Walton Boulevard to Moberly Lane. This widening project was recommended as a mid-term improvement project in the *Future Corridors* study.



5.0 Future Corridors

The purpose of the *Future Corridors* portion of the city wide traffic study in Bentonville was to analyze the existing transportation system to identify corridor locations in need of improvement. These locations were prioritized into mid-term (5-10 years), long-term (10-15 years) and future (15-20 years) projects.

In analyzing the corridors and developing recommendations, a number of indicators were considered including functional classification, previous studies, growth, travel speeds, observations, and level of service. For the purposes of recommending future projects, highways and roadways already undergoing improvements were eliminated from consideration. The following is a list of the recommendations.

5.1 Mid-Term Projects (5-10 Years)

The following projects are recommended to be completed within the next 5-10 years.

- NW 5th Street – Extend to N Walton Boulevard
- SW 2nd Street – Widen from Hugh Tater Black to the junction with W Central Avenue
- SW 10th Street – Extend to S Walton Boulevard
- SE/SW 14th Street – Widen from the western city limits to Greenhouse Road and provide widening/access management from Moberly Lane to the I-540 Ramps
- SE/SW 28th Street – Widen from S Walton Boulevard to Moberly Lane
- NE/NW J Street – Widen from E Central Avenue to John DeShields Boulevard/Museum Way
- E Central Avenue – Widen from I-540 to the eastern city limits and consider an adaptive signal system
- W Central Avenue – Widen from SW 2nd Street to N/S Walton Boulevard and consider an adaptive signal system
- N/S Walton Boulevard – Widen from SE J Street to the I-540 Ramps and consider an adaptive signal system

5.2 Long-Term Projects (10-15 Years)

The following projects are not needed with current traffic conditions, but are recommended for future traffic conditions.

- SE/SW 14th Street – Widen from S Walton Boulevard to Moberly Lane and consider an adaptive signal system
- NW A Street – Additional capacity needed between W Central Avenue and Tiger Boulevard
- N/S Walton Boulevard – Widen from W Central Avenue to SE J Street



5.3 Future Projects (15-20 Years)

This list should be re-evaluated in ten years due to changing conditions.

- NW A Street – Additional capacity needed between W Central Avenue and Tiger Boulevard
- SW A Street – Additional capacity needed between W Central Avenue and S Walton Boulevard
- E Battlefield Boulevard – Additional capacity needed between Moberly Lane and Woods Creek
- Been Road – Additional capacity needed between SW 20th Street and SW 14th Street
- Bright Road – Additional capacity needed between SW Fir Avenue and SW Regional Airport Boulevard
- Bella Vista Road– Additional capacity needed between N Walton Boulevard and NW 5th Street
- Moberly Lane – Additional capacity needed between SE 8th Street and John DeShields Boulevard
- Tiger Boulevard– Additional capacity needed between N Walton Boulevard and NW A Street

