LAGRANGE BYPASS SCOPING STUDY

EXECUTIVE SUMMARY OF FINDINGS AND RECOMMENDATIONS

Prepared for
Kentuckiana Regional Planning and Development Agency (KIPDA)
Oldham County Fiscal Court
City of LaGrange
Kentucky Transportation Cabinet (KYTC)

Prepared by
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1.0 PURPOSE AND GOALS

1.1 Study Purpose

The Kentuckiana Regional Planning and Development Agency (KIPDA), in cooperation with the Oldham County Fiscal Court, City of LaGrange, and the Kentucky Transportation Cabinet (KYTC), performed this technical transportation study to explore multimodal solutions to transportation and traffic problems associated with access, mobility, safety, congestion and other issues in LaGrange, Kentucky. Specifically, the project sought to:

- Identify and analyze the access, mobility, safety, congestion and other issues in the study area:

- Develop a set of alternate multimodal solutions including: No-Build, Transportation Systems Management (TSM), bicycle, pedestrian, transit and various other roadway options, perhaps including a bypass;

- Assess the effectiveness and feasibility of implementing one or more alternates, and

- Recommend a preferred alternate or package of alternates for future implementation, including phasing of construction and possible funding sources.

This executive summary document presents a synopsis of the findings and conclusions of the full study based upon input from a variety of sources including: various public stakeholders, the Project Work Group, the Project Team, and the technical analysis and recommendations of the Consultant. The information, analysis, conclusions and recommendations were all used to identify and understand the existing transportation problems and issues in the study area, as well as to develop, analyze, recommend and ultimately plan for and prioritize a wide array of multimodal improvement alternates.

A full report with all documentation for the project is available from the Kentuckiana Regional Planning and Development Agency (KIPDA), Oldham County, and/or the City of LaGrange.

1.2 Study Area

The 4th Class city of LaGrange is the county seat of Oldham County and is located in the north-central area of Kentucky east of Louisville. The study area for the project is bounded by and adjacent to: US 42 to the north, KY 53 to the east, KY 22 to the south, and KY 393 to the west all in the vicinity of LaGrange, KY.
1.3 Study Goals and Objectives

The study’s adopted goals and objectives were based on input at the initial public meeting, discussions with the Project Work Group and Project Team, and initial stakeholder interviews. The goals and objectives were used to guide the project through the development and evaluation of study alternates. For each goal, a set of specific objectives was also developed. The adopted goals and objectives for the study included:

Goal 1

Reduce Existing and Future Traffic Congestion and Improve Vehicle and Pedestrian Mobility.

Objectives

- Propose cost-effective operational and/or physical improvements that will facilitate traffic flows, improve connectivity, and reduce delay, congestion and travel time on study area roadways.
- Propose cost-effective improvements that will enhance pedestrian mobility in the project study area.
- Propose improvements that address the need for improved emergency vehicle access and mobility in the study area.
- Propose improvements to expand the range of transportation modes and services available in the study area (i.e., carpool/vanpool, transit, bicycle and pedestrian).

Goal 2

Enhance Vehicular and Pedestrian Safety

Objectives

- Propose improvements that will enhance traffic safety on existing and proposed roadways and at critical study intersections.
- Propose improvements that will provide safe facilities for pedestrians and cyclists within the study area.
- Propose improvements that will help the transportation system operate more safely and efficiently and respond to and recover from incidents in a timely manner.
Goal 3

Support Future Development and Community Growth

Objectives

• Develop improvements that will enhance access to development sites targeted for future growth in the study area.

• Develop improvements that are compatible with land use, zoning, comprehensive plans and other guidance documents that help shape the urban landscape.

Goal 4

Maintain and Improve Community Character and Quality of Life

Objectives

• Preserve culturally and/or historically valuable community resources as well as the character of residential neighborhoods and commercial areas.

• Maintain and improve environmental quality (air, water, and land) in the study area and in the City and County at-large.

These goals and objectives guided the development of and ultimately the evaluation of alternates for the project. The feasibility of the alternates in meeting one or more of the goals and objectives, solving identified problems and, ultimately how well they accomplish this is the focus of the analysis.
2.0 ALTERNATES DEVELOPMENT

2.1 Alternates Development

A wide-range of multimodal improvement alternates was developed in response to the transportation deficiencies identified in the study area. In addition, each alternate was intended to address one or more of the study’s adopted goals and objectives.

The alternates development took into account suggestions and input from a variety of sources, including:

- Stakeholder / Public input
- Work Group input
- Project Team input
- Previous studies
- Existing transportation plans

The inclusion of the first item, stakeholder / public input was important to the overall course of the project and was particularly useful in developing a wide range of preliminary alternates. Public input improved the overall quality and effectiveness of the proposed improvements by allowing citizens who actually reside in the study area to develop and have input on the scope and nature of the alternates. This public input process allowed the public to “take ownership” of many of the alternates from the moment they were conceived.

Activities to solicit input into the alternates development process included:

- Initial group and one-on-one interviews with local stakeholders and a continuing dialogue concerning the nature of problems and the range of possible solutions.

- Two public meetings held in workshop format - one specifically devoted to the development of alternates by geographic location, and a second devoted to receiving public comment on the previously developed alternates.

The initial alternates were designed to address many observed transportation system deficiencies and problems including:

- Lack of alternative routes to KY 53, especially through downtown LaGrange
- Congestion on KY 53, through LaGrange and near the I-71 interchange
- Vehicle congestion, delay, and safety concerns at specific intersections
- Vehicle congestion and safety on specific road segments
- Pedestrian and bicycle safety (i.e. lack of sidewalks and bike facilities)
- Lack of turn lanes and shoulders
- Trains blocking roadways (i.e. KY 53 in LaGrange as well as other locations)
• Poor intersection sight distance (i.e. Madison at Dawkins)
• Need for new roadways to facilitate orderly and beneficial economic development

Although not all encompassing, the list provides a good indication of the types of problems that were addressed by the proposed improvements.

Initially, the public, the Work Group, and the Project Team identified over 65 preliminary alternates. These improvements covered the full range of options, including policy-oriented improvements, small facility enhancements (traffic signal or turn lane), new construction (new roadways or extensions of existing roadways), and new multimodal services, including transit. The alternates were grouped into three primary categories to facilitate a better understanding of them as well as to aid in the eventual evaluation process. The three categories included:

1. **Low-Build Alternates** – primarily Transportation Systems Management (TSM) type improvements, typically lower cost / lower impact improvements with the potential for quick positive benefits (i.e. little or no new right-of-way, minimal environmental or community impacts). An example would be adding a stop sign or changing a stop-controlled intersection to signal control.

2. **Medium-Build Alternates** – projects with a moderate cost and moderate impact potential (i.e. some new right-of-way, moderate environmental or community impacts). Possible examples include adding a short turn lane or reconstructing an existing intersection.

3. **High-Build Alternates** – projects with a higher cost and a higher impact potential (i.e. new right-of-way required, higher potential for environmental and community impacts). An example would be a new roadway on a new alignment.

To facilitate review, the proposed build alternates were also initially divided into five geographic groups based on their location within the study area:

• Entire Study Area (primarily policy orientated alternates)
• Downtown LaGrange
• KY 53 in the Vicinity of I-71
• South Study Area
• North Study Area

A total of 65 alternates were initially identified. Few if any specific recommendations were made for KY 22. Similarly, the only recommendation for US 42 was to protect it as an existing scenic byway. Conversely, there were many proposed improvements throughout downtown LaGrange, along KY 53, and to the north and west of downtown LaGrange.
2.2 No-Build Scenario

In addition to the low, medium, and high build alternates, a No-Build Scenario was also evaluated. The No-Build Scenario presents the expected traffic conditions in the study area in the year 2025 if no transportation improvements are constructed other than those already committed to by KYTC and other local agencies. This analysis provides the baseline for evaluating and comparing the proposed improvement scenarios and alternates. It reveals where the transportation system is anticipated to be deficient in the future and gives an indication of how extensive these problems may be if not addressed appropriately.

The only major KYTC project within the study area included in the No-Build Scenario was the reconstruction and realignment of KY 393 from just north of KY 146, south to KY 22. One local project, the proposed road between KY 22 and Moody Lane serving the new school campus was also included in the No-Build Scenario as part of the school development. All other potential future projects were evaluated as alternates in the study.
3.0 EVALUATION METHODOLOGY

This section describes the methods used to evaluate the future improvement alternates. This includes a review of the evaluation process, evaluation criteria, and analytical methods.

3.1 Evaluation Process

The 65 initial alternates were evaluated using a three-step screening procedure. This screening procedure iteratively worked through each of the improvement categories (low, medium, and high), refining the list of alternates based on public and Work Group input, as well as on an increasing amount of technical analysis and knowledge. The goal of the screening procedure was to develop a final package of recommended improvements. Throughout the process, the No-Build alternate provided the baseline for evaluation and comparison.

At the outset, the full universe of over 65 alternates was considered. At this initial stage, called Level 1 Screening, only a few critical factors were examined regarding the broad array of potential improvements. As the evaluation advanced to Level 2 and eventually Level 3 screening, the range and depth of information and technical analysis widened as the number of possible alternates narrowed. The figure below illustrates this three-level evaluation process.

![Three-level evaluation process diagram]

The first analysis phase, Level 1 or “Fatal Flaw” screening, was conducted primarily on a qualitative, rather than quantitative basis. As the screening process progressed, more detailed information was developed. The criteria and analyses for the later stages, Levels 2 and 3 respectively, gradually became more definitive and provided more...
quantitative rather than qualitative results. The following sections provide additional details for each of the three screening steps.

3.2 Level 1 “Fatal Flaw” Screening

The Level 1 or “fatal flaw” screening analysis applied a limited number of evaluation measures to all alternates in order to eliminate those that the Project Work Group and Consultants agreed were flawed or unworkable. Alternates were also eliminated if they were inconsistent with the study’s overall Goal’s and Objectives, if they did not address the problems identified in the existing conditions evaluation, or if they had a characteristic that would prevent implementation. The Level 1 analysis relied on initial analysis as well as judgments by the Project Work Group and Consultant team based on qualitative evaluations in three primary areas. These areas included:

- **Implementation Feasibility** – To what extent did an alternate lend itself to being implemented within the social, physical and fiscal constraints of the study area?
- **Potential Community or Environmental Impacts** - To what extent did an alternate enhance or degrade the natural, social, built or economic environments?
- **Potential Order of Magnitude Benefits vs. Costs** - To what extent did an alternate achieve key study goals and objective or provide transportation benefits compared to expected project costs?

The initial screening determined whether an alternate minimally satisfied one or more of the above criteria. If an alternate was deficient in one or more of the categories above, it was a candidate for elimination from further consideration.

3.3 Level 2 Screening Analysis

The Level 2 screening analysis involved a more detailed evaluation of the alternates remaining from Level 1. The Level 2 screening involved knowing more information about a smaller number of alternates. The goal of the Level 2 screening was to compare, contrast and group the remaining alternates to develop a shorter narrower list for further evaluation and refinement in Level 3. At this stage of the study, qualitative information was combined with limited quantitative data to develop a comparative matrix.

The generalized evaluation criteria used in Level 1 were expanded for the Level 2 screening. Eight specific evaluation criteria were developed and refined to examine potential impacts in more detail. The Level 2 evaluation criteria were:

- **Traffic and Pedestrian Conditions** – a general category addressing mobility, accessibility, and safety improvements with three specific evaluation criteria:
  1. Traffic Operations and Level of Service
  2. Traffic and Pedestrian Safety
3. Number of Users

- **Support of New Development** – compatibility with existing and future land use plans and concepts of development, and future community character

- **Community Impacts** – compatibility with adjacent existing and proposed land uses, and effects on neighborhoods and community cohesion

- **Property Impacts** – impacts to property including the potential need for new right-of-way acquisition

- **Environmental Impacts** – affects on threatened, rare and/or endangered species, known or potential cultural historic sites / structures, known or potential archaeological sites, number of hazardous materials (HAZMAT) sites, and underground storage tanks (USTs)

- **Capital Costs / Benefits** – capital costs (construction, design, relocation of utilities, etc.) evaluated against perceived or actual benefits

In addition to the above criteria, Project Work Group and public input was also used extensively during the Level 2 screening process. The Level 2 screening resulted in the selection of the most promising alternates for further more detailed examination in Level 3.

3.4 Level 3 Detailed Analysis and Refinement

A third, and final round of more technical analysis and refinement was completed to evaluate and compare the alternates remaining from Level 2. This Level 3 evaluation employed more detailed, quantitative and technical analysis methods. The evaluation criteria used for the Level 2 analysis were refined once again for use in Level 3.

As illustrated above, the Level 3 analysis further increased the breadth and depth of information known about a smaller number of remaining alternates. During Level 3, efforts were made to establish the most definitive information for each alternate. At this stage, the quantity and quality of technical data known about each of the alternates was at its highest. This detailed level of analysis facilitated informed decision-making regarding the remaining alternates as they related to developing the preferred package.

The Level 3 alternates analysis was designed to determine which projects best achieved the study’s adopted goals and objectives. It also assessed the extent to which each alternative addressed the specific transportation deficiencies identified in the study area. To accomplish this, four principal evaluation criteria were defined. For each of these criteria, performance measures were selected to facilitate the analysis and ultimately to compare the remaining alternates. These criteria and performance measures were related to those used in Level 2, but were refined further in order to
facilitate quantification and allow for more meaningful comparisons between competing or similar alternates.

The evaluation criteria and performance measures that were used included:

- **Traffic and Transportation**
  1. 2025 Average Daily Traffic (ADT) Volumes
  2. 2025 Levels of Service (LOS)
  3. Access, Circulation, and Safety

- **Costs**
  1. Capital Costs

- **Impacts**
  1. Community Impacts
  2. Environmental Impacts

- **Execution**
  1. Feasibility / Meets Goals and Objectives
  2. Priority / Phasing

A future design year of 2025 was used for the Level 3 analysis. Thus both land-use and transportation projections were forecasted to the year 2025.

3.5 Level 3 Scenarios

To facilitate a meaningful comparison of the alternates, those remaining after the Level 2 screening phase were grouped for the final Level 3 evaluation. The groups or improvement scenarios included the No-Build scenario and various build scenarios representing increasingly more significant levels of investment. For example, the Medium Build scenario included both the No Build improvements and the Medium Build improvements. Likewise, the High Build scenario included all the No Build, all the Medium Build, and the various High Build scenarios. The following definitions outline the scenarios evaluated in the Level 3 screening:

- **No-Build Scenario** – This scenario represents the baseline and serves as a comparison for other scenarios and for developing the recommended package of improvements. The No-Build scenario consists of only “existing and committed” projects; projects that are part of an existing plan and are deemed a “given” in terms of implementation and funding. The only major projects included in the No-Build for the LaGrange Bypass Scoping Study is the realignment of KY 393 from north of KY 146 in Buckner, south to KY 22.

- **Low-Build or Transportation System Management (TSM) Scenario** – This scenario included lower cost, lower impact improvements. Typically, they could be implemented relatively quickly. An example would be converting a four-way
STOP controlled intersection to a signal controlled intersection at the KY 146 / KY 53 intersection.

- **Medium-Build Scenario** – This scenario included projects with more costs and impacts than those in the Low Build or TSM scenario but less than the High-Build scenario. The identified projects could typically be implemented in approximately four to seven years. An example would be a short connector road or widening of a roadway within the existing right of way.

- **High-Build Scenario** – This scenario included the projects that are the most costly, most complex and would likely have the most impacts. These projects would typically be implemented in a long time frame. An example would be a new roadway or bypass on new right-of-way.

For the study, there was one (1) No-Build Scenario, one (1) Low-Build Scenario, one (1) Medium-Build Scenario, and three (3) High-Build scenarios. The three High-Build scenarios were exactly the same with the exception that each included a different north bypass alignment (options A, B and D respectively).
4.0 SCREENING

4.1 Level 1 Screening

The Project Work Group, along with Consultant staff participated in a workshop format exercise to perform the Level 1 screening analysis. The goal of the Level 1 screening was to eliminate alternates that were clearly flawed and should not be carried forward.

Completion of evaluation sheets in matrix format for all alternates was performed to facilitate the analysis. As previously described, alternates were broken down by implementation category (low, medium, high) as well as geographically in order to facilitate the evaluation. Information depicted on the evaluation sheets included:

- Alternate Number
- Brief description, including the proposed scope and limits of the improvement
- Recommendation regarding further consideration or elimination (i.e. yes, advance to Level 2 or no, do not advance)
- Reason for recommendation

In Level 1 screening, a total of 22 alternates were identified as being “fatally flawed” and were eliminated from further consideration. The remaining alternates were refined and recommended for advancement to Level 2 per the recommendations of the Project Work Group.

4.2 Level 2 Screening

Following the Level 1 screening, the alternates were refined and examined further in Level 2 screening. Level 2 screening examined the remaining alternates in more detail and applied performance measures to produce practical comparisons between them. The goal of Level 2 was to develop a short list of the most promising alternates for more detailed evaluation in Level 3.

The Level 2 screening was based on a mixture of qualitative and quantitative evaluation information, again presented in a matrix format.

The performance measures included in the matrix for Level 2 were:

- Traffic operations and level of service
- Traffic and pedestrian safety
- Number of users
- Support for new development
- Community impacts
- Property impacts
- Environmental impacts
- Capital and operating costs / User benefit
Both the Project Work Group and the public participated in Level 2 screening. The Work Group performed Level 2 screening on April 15, 2002 and the public participated in a Level 2 screening workshop on April 30, 2002. In all, 29 alternates were recommended for elimination as a result of the Level 2 screening. The alternates remaining after Level 2 were grouped into scenarios or packages of projects for evaluation in Level 3.

4.3 Level 3 Screening

The Level 3 Screening was the final and most detailed level of technical analysis. Detailed information was gathered for each study scenario using the performance measures previously discussed. Data was also collected and examined for specific projects within each scenario.

The study scenarios included:

<table>
<thead>
<tr>
<th>Study Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td>0. 2025 No-Build Scenario (Future Baseline)</td>
</tr>
<tr>
<td>1. 2025 Low-Build Scenario</td>
</tr>
<tr>
<td>2. 2025 Medium-Build Scenario</td>
</tr>
<tr>
<td>3. 2025 High-Build Scenario 1 (North Bypass Option D)</td>
</tr>
<tr>
<td>4. 2025 High-Build Scenario 2 (North Bypass Option B)</td>
</tr>
<tr>
<td>5. 2025 High-Build Scenario 3 (North Bypass Option A)</td>
</tr>
</tbody>
</table>
5.0 RECOMMENDED PLAN

This chapter presents the recommended program of improvement projects for the LaGrange study area. These recommendations are made by the Consultant, based on the results of the detailed Level 3 technical analysis, input from stakeholders and the general public, and consultation with the Project Work Group and Project Team. These recommendations cover a broad range of projects, both large and small, located throughout the study area. This package of alternates forms the Recommended Plan for future implementation over the short, medium and long-term time frames by one or more local sponsoring agencies. Short term is defined as 0 to 12 years, Medium term is defined as 13 to 20 years and Long term is defined as 20 + years.

5.1 Low- Build / Transportation Systems Management (TSM) Options

The Level 3 analysis concluded that lower cost transportation systems management (TSM) type improvements would provide benefits in certain locations. However, the impacts of these low-type improvements are limited when the system as a whole is taken into account.

The alternates in this category are a mixture of policy recommendations and lower-cost projects. The policy alternates are expected to have minimal adverse affects and minimal costs. They would yield benefits that although positive, are hard to quantify given the analysis tools available for the study. This however, should not detract from their implementation, as they are important tools for building a long-term sustainable, safe, and high-quality transportation system. Other alternates in this category seek to develop lower-cost build improvements that are multimodal in nature, encompassing pedestrian, bicycle and automobile modes. The recommended TSM projects are discussed below.

Alternate number 13

- **Design** - work with the City of LaGrange, County, local police, state police, fire, etc., to enhance incident management (traffic re-routing) plans
- **Purpose** - this will continually enhance the existing incident management and traffic rerouting that is currently in place.
- **Traffic / Transportation** - N/A
- **Cost** - nominal if any
- **Impacts** - nominal if any
- **Execution** - Project execution is deemed to be high and this project can be implemented in the short time frame
## LaGrange Bypass Scoping Study Summary of Findings and Recommendations

### Recommended Projects

<table>
<thead>
<tr>
<th>Alt. No.</th>
<th>Description</th>
<th>Traffic / Transportation</th>
<th>Capital Costs*</th>
<th>Impacts</th>
<th>Execution</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>2025 Level of Service (LOS)</td>
<td>Average Daily Traffic (ADT) - 2025</td>
<td>Access / Circulation / Safety</td>
<td>Design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Ave Peak/DHV Peak)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Work with City, County, state police, Fire / EMS and dispatch to enhance incident management and traffic rerouting</td>
<td>N/A</td>
<td>N/A</td>
<td>Improves circulation and safety</td>
<td>Nominal</td>
</tr>
<tr>
<td>25</td>
<td>Provide area-wide pedestrian and bicycle amenities (signs, pavement markings, signals, etc.) to fill in &quot;gaps&quot; or in concert with County Greenways Project</td>
<td>N/A</td>
<td>N/A</td>
<td>Improves safety</td>
<td>$50,000</td>
</tr>
<tr>
<td>14</td>
<td>Investigate and implement access management policy especially along major thoroughfares (KY 22, KY 53, KY 146, KY 393 and US 42) as part of adequate facilities ordinance, traffic impact studies requirements or incorporate into thoroughfare plans</td>
<td>N/A</td>
<td>varies</td>
<td>Improves safety and traffic flow</td>
<td>Nominal</td>
</tr>
<tr>
<td>36</td>
<td>KY 393 / KY 146 / 171 and Vicinity - encourage neighborhood commercial development</td>
<td>N/A</td>
<td>N/A</td>
<td>Improves local circulation</td>
<td>Nominal</td>
</tr>
<tr>
<td>19</td>
<td>KY 146 / 4th. St. - install traffic signal</td>
<td>B / C</td>
<td>13,000 - 14,000</td>
<td>Improves safety and circulation</td>
<td>$10,000</td>
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<tr>
<td>43</td>
<td>Downtown all-grade RR crossings - install lights, audible warnings (Main St. / 2nd St., Main St. / Walnut St.)</td>
<td>N/A</td>
<td>&gt; 5,000 each</td>
<td>Improves safety</td>
<td>$30,000</td>
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<tr>
<td>59</td>
<td>Main St / 2nd St - convert to 4-way stop</td>
<td>Safety</td>
<td>3,000 - 6,000</td>
<td>Improves safety</td>
<td>Nominal</td>
</tr>
<tr>
<td>A1</td>
<td>Main St / Walnut St - convert to 4-way stop</td>
<td>Safety</td>
<td>7,000 - 8,000</td>
<td>Improves safety</td>
<td>Nominal</td>
</tr>
<tr>
<td>57</td>
<td>KY 53 / 171 Interchange - add protected left turn phases at south / north bound I-71 ramps</td>
<td>D-F / F</td>
<td>33,000 - 45,000</td>
<td>Improves safety</td>
<td>$3,000</td>
</tr>
<tr>
<td>58</td>
<td>KY 53 / Parker Dr - install traffic signal</td>
<td>F / F</td>
<td>30,000 +</td>
<td>Improves circulation</td>
<td>$10,000</td>
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<tr>
<td>39</td>
<td>US 42 - protect as a scenic byway (previously designated as a scenic byway)</td>
<td>N/A</td>
<td>3,000 - 4,000</td>
<td>N/A</td>
<td>Nominal</td>
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</table>

### LOW-BUILD (Transportation Systems Management - TSM)

<table>
<thead>
<tr>
<th>Category Subtotal</th>
<th>Category Subtotal</th>
<th>$103,000</th>
<th>$85,000</th>
<th>$514,000</th>
<th>$991,000</th>
<th>$702,000</th>
<th>$1,179,000</th>
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<tbody>
<tr>
<td>Cumulative Total</td>
<td>Cumulative Total</td>
<td>$103,000</td>
<td>$85,000</td>
<td>$514,000</td>
<td>$991,000</td>
<td>$702,000</td>
<td>$1,179,000</td>
</tr>
</tbody>
</table>

* Excludes right-of-way (ROW)

** All alternates have potential affects on Archaeological Sites

Parsons Brinckerhoff

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Alternate number 25
- **Design** - provide a set aside for area-wide pedestrian and bicycle amenities (signs, pavement markings, signals, etc.) to fill-in “gaps” or in concert with the County Greenways Project. The locations for these projects would need to be identified with further study. Possible locations could include those near schools, shopping centers and recreations corridors.
- **Purpose** - This alternate would provide for multimodal alternatives specifically for pedestrians and bicycles and leverage funds for the Greenways Project.
- **Costs** - This alternate would cost between $250,000 and $300,000, roughly $50,000 each for six (6) spot / location improvements.
- **Impacts** - No adverse impacts are anticipated.
- **Execution** - Project execution is deemed to be medium given the undefined nature of the recommendations. This project can be implemented in the short term and can be on-going while new locations for improvements are identified.

Alternate number 14
- **Design** - implement an access management policy especially along major thoroughfares such as KY 22, KY 53, KY 146, KY 393 and US 42 as part of an adequate facilities ordinance, traffic impact studies requirement, and/or incorporated into future thoroughfare plans.
- **Purpose** - this type of policy would help the City of LaGrange and Oldham County better plan for and finance needed infrastructure, especially additional transportation infrastructure, that may be needed through increased development
- **Costs** - nominal if any
- **Impacts** - nominal if any
- **Execution** - low due to the fact that much policy consideration must be given to the implementation / regulatory tools and the fact that they would be new and need necessary local government approval

Alternate number 36
- **Design** - encourage neighborhood commercial development near the vicinity of the KY 393 / KY 146 / I-71 interchange.
- **Purpose** - this would help distribute trips to other parts of the transportation system or network that may otherwise be destined for the KY 53 commercial corridor near the I-71 interchange / Kroger shopping center area.
- **Traffic / Transportation** - N/A, although improvements would be made to access, circulation and safety
- **Impacts** - none
- **Execution** - this is a project with medium feasibility that would seek to reduce travel demand to other shopping areas

Alternate number 19
- **Design** - install a traffic signal at KY 146 and 4th Street.
- **Purpose** - improve safety
- **Traffic / Transportation** - the intersection of KY 146 and 4th Street is expected to have between 13,000 and 14,000 vehicles per day in 2025.
• Cost - the improvement (signal) would cost between $125,000 for a basic signal installation to $250,000 if more complex factors are involved.
• Impacts - impacts are anticipated to be minimal.
• Execution - this is a project with high feasibility that would enhance safety and can be implemented in the short time frame.

Alternate number 43
• Design - install lights and audible warnings at downtown railroad crossings (Main Street and 2nd Street and Main Street and Walnut Street).
• Purpose - this is a lower cost improvement that will enhance safety at these key intersections. The installation of new flashing lights, bells, and cross buck signs is proposed. The improvement does not include gates and coordination with CSX and the City of LaGrange will be needed.
• Traffic / Transportation - although the local streets have low volumes of traffic, this alternate would improve safety.
• Costs - the costs would be $150,000 to $300,000 depending upon complexities encountered in the field.
• Impacts - there are no adverse impacts anticipated.
• Execution - the project is deemed to be medium for feasibility / meets goals and objectives. As for priority, this is a project than can be implemented in the short time frame.

Alternate number 59
• Design - convert Main Street and 2nd Street existing 3-way stop to a 4-way stop.
• Purpose - this recommendation is being made to increase safety at this location. A 4-way stop sign will increase safety by (1) reducing speed at the intersection, (2) increasing driver expectation and awareness, and (3) requiring all vehicles on all approaches to stop.
• Traffic / Transportation - volumes are expected to between 3,000 and 6,000 ADT in 2025
• Costs - costs are very low as they include one new post and sign only.
• Impacts - there are virtually no impacts.
• Execution - this project could be implemented immediately.

Alternate number A1
• Design - convert Main Street and Walnut Street existing 3-way stop to a 4-way stop.
• Purpose - this recommendation is being made to increase safety at this location. A 4-way stop sign will increase safety by (1) reducing speed at the intersection, (2) increasing driver expectation and awareness, and (3) requiring all vehicles on all approaches to stop.
• Traffic / Transportation - volumes are expected to be between 7,000 and 8,000 ADT in 2025
• Costs -costs are very low as they include one new post and signs only.
• Impacts - there are virtually no impacts.
• Execution - This project could be implemented immediately.
Alternate number 57

Design - install protected left turn phases at southbound and northbound I-71 ramps from KY 53. This involves saw cutting loop detectors into the existing pavement, providing a green arrow signal head, and rewiring the nearby controller unit.

Purpose - such a solution will provide for safe turning movements of vehicles onto the northbound and southbound I-71 ramps from KY 53. This is a safer situation than the yield on solid green condition that now exists. The loop detector will sense that a vehicle wants to make the movement and change the intersection timing to safely accommodate the turn.

Traffic / Transportation - these intersections already have a high volume of traffic and it will grow substantially by 2025. The SB I-71 intersection already exceeds the threshold for considering protected left-turn phasing. (Implementation of such phasing should however be based on a specific traffic investigation.)

Costs - costs would be between $50,000 and $75,000.

Impacts - impacts are minor.

Execution - the project can be executed in the short time frame.

Alternate number 58

Design - install traffic signal at KY 53 and Parker Drive.

Purpose - traffic flow and access. The installation of this signal becomes especially critical in outlying years, especially once the Oldham County Business Park develops. This location is the east terminal of Commerce Parkway with KY 53 and will likely become congested in the future. The current unsignalized intersection will not be adequate in the future.

Traffic / Transportation – 2025 traffic projections for the intersection are approximately 30,000 ADT

Cost - a signal could cost between $125,000 and $250,000 dollars.

Impacts - the impacts would be minor

Execution - the feasibility / meets goals and objective is medium largely because of the uncertainty associated with the long-term development of the business park. Similarly, the phasing is short to medium depending upon when the business park traffic becomes significant, causing congestion on Crystal Drive.

5.2 Medium Build Options

The analysis concluded that the Low-Build TSM improvements alone are not adequate to handle the projected 2025 traffic volumes in the study area. Therefore, a number of Medium-Build alternatives were considered in addition to the TSM projects. While these projects combined still did not provide the needed capacity and safety improvements, a number of them did provide important localized benefits and should be pursued. The following discussion presents the recommended medium build options:
### Recommended Projects

#### Traffic / Transportation

<table>
<thead>
<tr>
<th>Alt. No.</th>
<th>Description</th>
<th>Traffic Impact</th>
<th>Capital Costs*</th>
<th>Environmental Impacts**</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>52</td>
<td>Madison St from Dawkins Rd (KY 2854) to 6th St - Realign and improve sight distance at Dawkins (1 lane)</td>
<td>N/A</td>
<td>$25,000</td>
<td>$1,950,000</td>
<td>1 - 2 homes</td>
</tr>
<tr>
<td>A3</td>
<td>Downtown signal / intersection improvements: (1) KY 53 / KY 146 - widen intersection approaches, signalize, add lanes, (2) KY 53 / Main St. - install traffic signal, (3) coordinate new signals, (4) RR sign, flasher and audible warning at KY 53 and Main St. - all using &quot;context sensitive design&quot;</td>
<td>C / F</td>
<td>$50,000</td>
<td>$305,000</td>
<td>Construction only</td>
</tr>
<tr>
<td>11</td>
<td>Main St - between Walnut St. and Cedar St. - address RR tracks and run off road issue</td>
<td>N/A</td>
<td>$10,000</td>
<td>$300,000</td>
<td>Minor</td>
</tr>
<tr>
<td>12A</td>
<td>KY 53 - KY 146 to Woodcreek - restripe and add right-of-way for 4 through lanes 11 feet wide</td>
<td>B</td>
<td>$25,000</td>
<td>$300,000</td>
<td>Minor, Right of Way</td>
</tr>
<tr>
<td>A15</td>
<td>KY 53 / Yager Ave - realign offset intersection at Yager Ave</td>
<td>B / F</td>
<td>$30,000</td>
<td>$3,000,000</td>
<td>2 - 5 businesses, Right of Way</td>
</tr>
</tbody>
</table>

#### Capital Costs*

<table>
<thead>
<tr>
<th>Description</th>
<th>Design</th>
<th>Utilities</th>
<th>Construction Low</th>
<th>Construction High</th>
<th>Total Low</th>
<th>Total High</th>
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#### Impacts

<table>
<thead>
<tr>
<th>Community Impacts</th>
<th>Environmental Impacts**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All alternates have potential affects on Archaeological Sites</td>
</tr>
</tbody>
</table>

#### Execution

<table>
<thead>
<tr>
<th>Feasibility / Meets Goals and Objectives</th>
<th>Priority / Phasing</th>
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<tbody>
<tr>
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#### Category Subtotal

<table>
<thead>
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<th>Category Subtotal</th>
<th>Cumulative Total</th>
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</thead>
<tbody>
<tr>
<td>$140,000</td>
<td>$243,000</td>
</tr>
</tbody>
</table>

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* - Excludes right-of-way (ROW)
** - All alternates have potential affects on Archaeological Sites

Parsons Brinckerhoff

August 2002
Alternate number 52

- **Design** - realign Madison Street from Dawkins Road to 6th Street. This alternate includes improving sight distance the Madison Street and Dawkins Road intersection.
- **Purpose** - the improvement will make Dawkins Road safer by adding curb and gutter and improving the Madison Street / Dawkins Road, intersection especially for westbound traffic on Madison Street turning south onto Dawkins Road.
- **Cost** - the total construction costs are anticipated to be between $1 and $2 M depending upon complexity and conditions encountered in the field.
- **Impacts** - the likely impacts to residences are nearest the Madison Street / Dawkins Road intersection as new right-of-way to realign the intersection will likely be needed. There are few if any environmental impacts.
- **Execution** - the project highly meets feasibility / goals and objectives and contributes to improved conditions especially with regard to safety. It is programmed for the immediate time frame.

Alternate number A3

- **Design** - downtown signal intersection improvements: (1) KY 53 / and KY 146 - widen intersection approaches, signalize, and add lanes, (2) KY 53 / Main Street – install traffic signal, (3) coordinate signals (1 and 2), (4) railroad sign, flasher and audible warning at KY 53 / Main Street; all using context sensitive design. Both signals would be coordinated / tied together along with the new train warning signs, flashers and audible warnings to make sure that the traffic signals and train warning system are interconnected to ensure safe operations. Additionally, all fixtures such as light poles, signal masts, etc., would be designed and constructed so they would blend into the surrounding environment in the downtown LaGrange historic district.
- **Purpose** - these projects would coordinate the intersection improvements slated for KY 53 / KY 146 and KY 53 / Main Street. The analysis proved that it is not enough to simply add a signal at KY 53 / KY 146. An improvement that allows uninterrupted traffic flows through the addition of left turn lanes; right through lanes and an additional westbound right lane along KY 146 is better.
- **Traffic / Transportation** – this improvement will yield level of service benefits (it is C during a typical peak and will degrade to E during the design hour). The full signalization and addition of lanes will also improve vehicle and pedestrian safety. The signal at KY 53 and Main Street will improves safety in a similar manner.
- **Cost** - all three aspects of the project would cost between $505,000 and $890,000.
- **Impacts** - impacts would be minimal and would be during construction only. There would be minor impacts to the LaGrange historic district – mainly noise and some visual intrusion of the new infrastructure.
- **Execution** - the project is highly feasible and meets the goals and objectives well, especially the ones that address safety and can be implemented in the short time frame.
Alternate number 11

- **Design** - Main Street between Walnut Street and Cedar Street address railroad tracks and run off road issue. The fundamental problem lies in the offset / jogged intersection at Walnut Street and Main Street (Photo 1 below). This intersection is difficult to navigate especially for vehicles traveling eastbound on Main Street as they cross Walnut Street and proceed to Cedar Street. The offset intersection and skew alignment of Main Street as it proceeds eastbound across Cedar St. (left photo below) causes run-off road issues. Motorists who run off the pavement often get stuck on the railroad tracks (right photo below). These events cause severe safety hazards for motorists and train operations.

The existing markings, barriers, etc., that are installed are inadequate for the situation. After a field review, discussion and analysis of multiple options, the following recommendations are offered:

1. Light the intersection with new overhead streetlights, retro reflective pavement markings and improved retro reflective signs
2. Channelize the east approach along Main Street at Walnut Street to eliminate offset / skewed intersection and to realign traffic eastbound across the railroad tracks. On the north side of Main Street, this may require the loss of one or two existing 45-degree angle parking spaces. On south side of Main Street, this will include installing a curb “bulb out” to realign the eastbound travel lanes and the taking of one or two 90-degree angle parking spaces.
3. Install “new” flexible crash barrier(s) on the railroad tracks
4. Fill in “gap” in tracks with new side and center pads, new side and center shims, and new flange way filler strip(s); replacing the existing railroad ties and extending the new pads, shims and filler strips approximately 25 feet beyond the edge of the existing pavement. (See Figure on next page)
Side / Center Pads, Shims and Flange Way Filler Strip

- **Purpose** - this alternate would greatly enhance safety at this location
- **Traffic / Transportation** - the projected 2025 volume at the intersection ranges from 7,000 to 8,000 ADT.
- **Costs** - costs are expected to be between $300,000 to $500,000.
- **Impacts** - community impacts are anticipated to be minor; perhaps on minimal disruptions during construction and the loss of 2 to 4 parking spaces in the shopping areas. Environmental impacts would also be minor in the historic district.
- **Execution** - the fact that this improvement is for safety and that one or more aspects of the recommendation can be done virtually immediately gives it a high feasibility rating.

Alternate number 12A

- **Design** - KY 53 from KY 146 to Woodcreek Drive re-stripe to add right-of-way for four (4) through lanes that are 11 feet wide. This improvement would eliminate the on-street parking on KY 53 north of KY 146 on the east and west sides. Currently, there are two 11-foot travel lanes and two 10-foot parking lanes both north and south bound along KY 53. This alternate would effectively take off all the existing parking from KY 146 to Woodcreek Drive and move the existing curbs out one additional foot in each direction so the 10 foot parking lanes can become two 11 foot travel lanes. A field review revealed that many of the existing residential dwellings already have adjacent parking between the houses in private driveways or in alleys behind the homes. This is true for all but one or two homes on the west side of the street. Alternate arrangements would need to be made for these residences.
- **Traffic / Transportation** - in the design year 2025, the 4 lanes would be able to adequately handle the expected High-Build scenario volumes of 12,000 to 14,000 vehicles at LOS B.
- **Costs** - the total construction costs would be anticipated to be between $300,000 and $500,000.
- **Impacts** - in terms of impacts, only minor ones are anticipated due to new right-of-way and the displacement of parking for two existing residences. The southern portion of the project touches the LaGrange historic district, but again the impacts would be minor.
• **Execution** - because the project adds significant capacity; it doubles the throughput of KY 53 from KY 146 to Woodcreek Road, and the fact that the project can be implement in the short time frame, the feasibility is high.

Alternate number A15

• **Design** - KY 53 at Yager Ave. realign off-set intersection with Yager Ave. and the shopping center. This involves closing the existing entrance to the Shopping Center along the east side of KY 53. This would eliminate the north leg of the off-set intersection and consolidate traffic to a modified full (four-way) intersection to the south.

• **Purpose** - this solution would consolidate traffic to one 90-degree intersection greatly improving safety and circulation in the area.

• **Traffic / Transportation** - the intersection of KY 53 and Yager is expected to experience 25,000 to 30,000 ADT by 2025. The improvement would yield a LOS of B during the average peak. During the design hour, a left turn lane is required on KY 53 to achieve an acceptable level of service (this is included in the High-Build Scenario recommendations).

• **Costs** - construction costs (exclusive of right-of-way) are anticipated to be between $1.5 M and $3.0 M.

• **Impacts** – minor right-of-way or access impacts to two-five businesses, including the reconfiguration of access to the pick up window for the Dairy Queen. There are few anticipated environmental impacts

• **Execution** - the fact that the project can improve safety and capacity and be implemented in the short / medium time frame depending on coordination with adjacent property owners lends to the high feasibility for the project. Note that is this project is undertaken in conjunction with High build option Alternate number 64A, explained in the next section, cost savings may be able to be achieved due to economies of scale for the larger, more complex project.
5.3 High Build Options

The analysis revealed that only the High-Build scenarios provided the level of improvement necessary to accommodate the projected 2025 traffic volumes at reasonable levels of service. In addition, only the High-Build scenarios provided substantial access and circulation benefits. The High-Build scenarios also provided critical safety improvements in important corridors such as KY 53. The recommended High-Build projects included a range of new highways and upgrades to existing highways. Each of the recommended projects is discussed below.

Alternate number 64A

- **Design** - KY 53 from Washington Street to I-71 south bound ramp add median with permitted left turn lanes at major intersections only, and coordinate traffic signals from Washington Street to Kroger. Since a major scale project in the LaGrange historic district is probably impractical, the most logical place to begin an improvement to KY 53 is Washington Street. This project involves the acquisition of additional right-of-way on the east and/or west sides of the existing KY 53 alignment to accommodate intermittent center turn lanes with non-mountable curbs at select locations.

- **Purpose** - this alternate will greatly enhance safety as it will provide left turn storage and allow for left turns to be made safely into adjacent businesses from KY 53.

- **Traffic / Transportation** – the intersections in the corridor will operate at LOS B to D in 2025 depending on the location and analysis period. The volumes range from 24,000 ADT to 42,000 ADT. The recommended option will enhance safety and reduce congestion and delay in the corridor.

- **Costs** - the anticipated costs are between $1.1M and $2.1 M.

- **Impacts** - the impacts to adjacent businesses that are near KY 53 in this section are estimated at between 12 and 15, mostly affecting their front yard setbacks and access points. There are no anticipated environmental impacts.

- **Execution** – although this project directly addresses safety concerns and allows traffic to flow more freely thus reducing congestion and delay, and receives a high rating for feasibility / meets goals and objectives, it is programmed for the long term priority and phasing because the Project Work Group and others felt that there are more pressing needs evident south of I-71 along KY 53

Alternate number A6

- **Design** - KY 53 from New Moody Lane (KY 2857) to KY 22 / KY 53 split in Ballardsville - widen to five lanes. This improvement includes widening the existing two-lane KY 53 to accommodate one additional travel lane north and south bound, plus an addition of a center turn lane to facilitate left turns at certain locations.
<table>
<thead>
<tr>
<th>Alt. No.</th>
<th>Description</th>
<th>Average Daily Traffic (ADT) - 2025</th>
<th>Access / Circulation / Safety</th>
<th>Traffic / Transportation</th>
<th>Capital Costs*</th>
<th>Impacts</th>
<th>Execution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low Total</td>
<td></td>
<td>Low Total</td>
<td>High Total</td>
<td>Community Impacts</td>
<td>Environmental Impacts**</td>
</tr>
<tr>
<td>64A</td>
<td>KY 53 - Washington St. to I-71 SB Ramp - add median with left turn lanes at major intersections only and coordinate traffic signals from Washington St. to Kroger</td>
<td>B-C / B-D</td>
<td>24,000 - 42,000</td>
<td>Improves safety and access</td>
<td>$160,000 $326,040 $613,960 $1,813,960 $1,100,000 $2,100,000</td>
<td>12 - 16 businesses</td>
<td>None anticipated</td>
</tr>
<tr>
<td>46</td>
<td>KY 53 - New Moody Lane (KY 2857) to KY 22 / KY 53 split in Ballardsville- widen to five lanes</td>
<td>A-C</td>
<td>8,000 - 22,000</td>
<td>Improves access, circulation and safety</td>
<td>$1,750,000 $3,277,000 $7,973,000 $16,973,000 $13,000,000 $22,000,000</td>
<td>15 - 20 homes</td>
<td>22 potential historic archaeological sites, 4 cultural / historic sites</td>
</tr>
<tr>
<td>NEW 1</td>
<td>Elder Park Road Extension (KY 2856) - from KY 53 to KY 393 (2 lanes)</td>
<td>A-C</td>
<td>3,000 - 5,000</td>
<td>Improves safety and circulation</td>
<td>$1,200,000 $296,400 $9,503,600 $11,503,600 $11,000,000 $13,000,000</td>
<td>12 - 15 homes</td>
<td>3 potential historic archaeological sites, 6 - 8 cultural / historic sites</td>
</tr>
<tr>
<td>NEW 2</td>
<td>New Moody Lane (KY 2857) - Improve to 2-lane facility from KY 53 to new overpass road south of I-71</td>
<td>C - E</td>
<td>3,000 - 16,000</td>
<td>Improves access and circulation</td>
<td>$420,000 $142,000 $3,138,000 $4,138,000 $3,700,000 $4,700,000</td>
<td>5 - 7 business, 1- 2 institutional impacts</td>
<td>7 potential historic archaeological sites</td>
</tr>
<tr>
<td>NEW 3</td>
<td>South Collector Option C - New Moody Lane (KY 2857) to KY 22 near Fible Lane (KY 2859) (2 lanes)</td>
<td>A-C</td>
<td>2,000 - 5,000</td>
<td>Improves access and circulation</td>
<td>$1,750,000 $250,000 $14,000,000 $17,000,000 $16,000,000 $19,000,000</td>
<td>12 - 15 homes</td>
<td>None anticipated</td>
</tr>
<tr>
<td>NEW 4</td>
<td>Moody Lane (KY 2856) - KY 53 to west of KY 22 Campus Master Plan widen to two lanes</td>
<td>C</td>
<td>2,000 - 4,500</td>
<td>Improves safety and circulation</td>
<td>$1,221,000 $276,000 $6,700,000 $14,280,000 $8,200,000 $15,785,000</td>
<td>12 - 15 homes</td>
<td>2 potential historic archaeological sites</td>
</tr>
<tr>
<td></td>
<td>New Correction's Access Roadway (Luther Luckett Collector) - new connector road along Corrections Department property from vicinity of existing reformatory entrance / KY 146 to Dawkins Road</td>
<td>B</td>
<td>1,000 - 3,000</td>
<td>Improves access and circulation</td>
<td>$151,748 $45,000 $1,603,252 $2,003,252 $1,800,000 $2,200,000</td>
<td>None</td>
<td>1 cultural historic site</td>
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<tr>
<td>45</td>
<td>KY 146 - KY 393 to 6th Street and - widen to four lanes</td>
<td>B</td>
<td>10,000 - 17,000</td>
<td>Improves circulation</td>
<td>$1,200,000 $2,100,000 $7,700,000 $9,700,000 $11,000,000 $13,000,000</td>
<td>8 - 12 homes</td>
<td>11 potential historic archaeological sites, 4 cultural / historic sites</td>
</tr>
<tr>
<td>46</td>
<td>North Bypass Option A - New collector / connector road from New Moody Lane (KY 2857) to KY 53 - via I-71 overpass, relocated Allen Lane, extended Springhouse Pike, new road to Old Sligo (2 lanes)</td>
<td>C - D</td>
<td>2,700 - 9,300</td>
<td>Greatly improves access, circulation and safety</td>
<td>$1,695,000 $420,800 $12,984,200 $16,684,200 $15,100,000 $18,800,000</td>
<td>0 - 5 homes in Springhouse Estates</td>
<td>7 potential historic archaeological sites</td>
</tr>
</tbody>
</table>

* - Excludes right-of-way (ROW)
** - All alternates have potential affects on Archaeological Sites

LaGrange Bypass Scoping Study Summary of Findings and Recommendations

Recommended Projects

Parsons Brinckerhoff

August 2002
• **Purpose** - this option helps to give existing KY 53 more traffic carrying capacity. The new 5-lane profile will mirror that proposed for KY 53 north of the I-71 interchange. The project will also address the existing deficiencies in horizontal and vertical curvature. This project also includes the addition of traffic signals / intersection improvements at (1) KY 53 and Grange Drive, (2) KY 53 and Zhale Smith Road, (3) KY 53 and Elder Park Extension (Alternate number NEW 1), (4) KY 53 and Moody Lane, and (5) KY 53 and KY 22.

• **Traffic / Transportation** - this section of KY will function at a LOS between A to C given the segment in 2025. The volumes range from 8,000 ADT to 22,000 ADT with higher volumes occurring in the northern section closer to the shopping areas and I-71. The recommended options will increase safety and roadway capacity; reduce congestion and delay in the KY 53 corridor. **Costs** - the anticipated costs are anticipated to be between $13 M and $22 M.

• **Impacts** - the impacts to adjacent homes that are within the needed right-of-way are between 15 and 20 homes. There are potentially 22 known or potential historic archaeological sites affected and 4 known or potential cultural / historic sites affected.

• **Execution** - since this project directly addressed safety concerns and allows traffic to flow more freely thus reducing congestion and delay, it receives a high rating for feasibility / meets goals and objectives. For priority and phasing, the project is recommended for phasing over the short to long time frames. Sections nearer to shopping areas south of I-71 to approximately Zhale Smith Road should be in the short time frame, the improvements from Zhale Smith Road to Blakemore Lane should be in the medium time frame, and improvements from Blakemore Lane southward to Ballardsville should be in the long time frame.

**Note:** Alternates 64A and A6 effectively create a five lane profile (2 lanes in each direction north and south with a center turn lane) from Washington Street to KY 22 / KY 53 split in Ballardsville. These projects do not involve the widening of the bridge over the interstate. Thusly, no additional accommodations for pedestrians in this section are presently accommodated. A planning level analysis / cost estimate for an adjacent, but separate structure to accommodate pedestrians and other users over I-71 is between $1 M and $2 M dollars.

**Alternate NEW 1**

• **Design** - Elder Park Road extension from KY 53 to KY 393. This option involves the construction of a new east west connector road south of Moody Lane.

• **Purpose** - this new roadway would provide a parallel connection to KY 22 from KY 53 through to KY 393. It would bring a balance to the network in the south and act in conjunction with KY 22 to form two parallel east – west routes much like Commerce Parkway and KY 146 in the north. The roadway would relieve traffic from existing KY 22 and provide for increased safety, access, and circulation, especially in the southern portion of the study area by forming a gridded street pattern for local access along with Options A6, 31 and New 3.

• **Traffic / Transportation** - the two-lane facility would achieve a LOS of C or better in 2025 with a volume of between 3,000 to 5,000 ADT.
LaGrange Bypass Scoping Study

Summary of Findings and Recommendations

- **Cost** - the total costs are anticipated to be between $11 M and $13 M.
- **Impacts** - there are impacts to adjacent homes that are within the needed new right-of-way (between 12 and 15 homes) with most of them near KY 393. There are potentially 3 known or potential historic archaeological sites affected and 6 to 8 known or potential cultural / historic sites affected.

**Execution** – since this project directly addressed safety concerns and allows traffic to flow more freely thus reducing congestion and delay, and provides a needed parallel route (although perhaps with a lower than expected volume), it receives a medium rating for feasibility / meets goals and objectives. For priority and phasing, the project is recommended for phasing over the short to long time frames because pieces of the roadway are potentially needed before others, especially the segment north of the KY 22 school campus. For the segment from KY 53 to the north leg of the south Bypass Option C, this segment is recommended to be implement in the short-term time frame. From this point, westward, the roadway should be implemented in the long-term time frame. If KY 22 becomes congested sooner than expected or the construction of the KY 22 campus advances, the execution / phasing time frame could be adjusted.

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**Alternate NEW 2**

- **Design** - New Moody Lane (KY 2857) improve to better 2-lane facility from KY 53 to new overpass road south of I-71. This option upgrades the existing 2-lane New Moody Lane roadway to accommodate 2 wider lanes with full shoulders making the segment safer and accommodating future traffic volumes in 2025.
- **Purpose** - this upgrade will provide a northern connection to the bypass road/I-71 bridge at Allen Lane and serve as an alternate link to provide access to the Business Park.
- **Traffic / Transportation** - the upgrade provides an appropriate LOS of C to E (with E occurring at the intersection during the highest segments of the peak hour) with 2025 volumes of between 3,000 and 16,000 ADT.
- **Cost** - costs range from $3.7 M to $4.7 M.
- **Impacts** - in terms of impacts, there are 5 to 7 anticipated business impacts; mainly front yards, reconfiguration of access points, and 1 to 2 institutional impacts of similar nature for the hospital and wastewater treatment plan. There are no anticipated environmental impacts.
- **Execution** - although the project directly addresses safety concerns and allows traffic to flow more freely thus reducing congestion and delay, and provides a needed alternative route to the business park, the roadway is predicated on the need for and implementation of other investments, namely the I-71 bridge at Allen Lane and south Bypass Option C, both of which may or may not be implemented in the short to medium time frames. Because of this interaction and staging, the project is recommended for implementation in the long term time frame and receives a medium rating for feasibility / meets goals and objectives.

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**Alternate 31**

- **Design** - new South Collector Option C from New Moody Lane (KY 2857) to KY 22 near Fible Lane (KY 2859) 2–lane collector (south bypass) roadway. The
roadway would begin at the intersection of Moody Lane and the end of the I-71 bridge / Allen Lane extension, travel southward along a portion of existing Moody Lane and then follow a new route east of existing Moody Lane to the proposed Elder Park Road Extension. Once on Elder Park Road, the route travels eastward past the existing subdivision before turning southward parallel to the Future North Fible Lane extension proposed as part of the KY 22 Campus Master Plan as being developed by the Oldham County School Board, before connecting with the existing Fible Lane south of KY 22. The project also includes intersection improvements at South Collector Option C and (1) New Moody Lane, (2) east and (3) west Elder Park Road Extension, (4) Moody Lane, and (5) North Fible Lane.

- **Purpose** - this new roadway would serve as a new north – south collector / bypass road and in conjunction with the north bypass Option A, would provide a continuous through route from KY 53 near Old Sligo Road southward to KY 22 at Fible Lane.
- **Traffic / Transportation** - this project would have LOS C or better in the design year 2025 carrying between 2,000 and 5,000 ADT. The roadway helps form a grid pattern of local collector streets in conjunction with Options A6, NEW 1, and NEW 3.
- **Cost** - the total cost is expected to be between $16 M and $19 M.
- **Impacts** - total impacts are roughly 12 to 15 homes. There are no environmental impacts anticipated.
- **Execution** - although the project directly addresses access and circulation concerns and allows traffic to flow more freely thus reducing congestion and delay, and provides a needed grided local street system, the roadway is predicated on the need for and implementation of other investments, namely the north bypass Option A and the development of the KY 22 school campus. Because of this interaction and staging, and the fact that the project attracts a lower volume of traffic, the project is recommended for implementation in the phased short to long time frame and receives a Medium rating for feasibility / meets goals and objectives. The surrounding development in the area and the advancement timeline of other recommended projects should indicate when this project is needed, i.e. when Option A is being designed in the north, planning and design for Option 31 should begin. When the school campus is developed, the segment from Fible Lane to Moody Lane should be in place. Therefore, this segment is recommended for the short-term time frame. Likewise the east-west segment along the Elder Park Road extensions is also programmed for the short-term time frame.

Alternate NEW 3

- **Design** - Moody Lane (KY 2856) from KY 53 to west of KY 22 Campus Master Plan parcel – widen existing narrow road to 2 full lanes.
- **Purpose** - this option would upgrade the existing Moody Lane from the existing one lane profile (in some sections) to 2 full lanes to handle anticipated traffic volumes in 20205. This newly upgraded roadway along with Option NEW 1, Option NEW 2, and Option 31 forms a grided roadway system in the south and
serves to facilitate traffic flow and access to existing residential areas and to the proposed KY 22 Campus Master Plan proposed by the Oldham County School Board.

- **Traffic / Transportation** - the predicted LOS is adequate at C for 2025 accommodating an ADT of 2,00 to 4,500. The new roadway will improve access and circulation especially in the south between KY 22 and the proposed Elder Park Road Extension.

- **Costs** - the upgraded facility is expected to cost between $8.2 M and $15.7 M.

- **Impacts** - there are community impacts anticipated with the project, mainly to 12 to 15 existing homes that front along the current roadway. Portions of front yards, driveways and local drainage may be affected by the expansion. There are 2 potential historic archaeological sites in terms of environmental impacts.

- **Execution** - although the project directly addresses access and circulation concerns and allows traffic to flow more freely thus reducing congestion and delay, and provides a needed grided local street system, the roadway is tied to the need for and implementation of other investments, namely the south bypass Option C and the development of the KY 22 school campus. Because of this interaction and staging, and the fact that the project may attract a moderate volume of traffic; especially if the school campus is built, the project is recommended for implementation in the short term time frame. The surrounding development in the area and the advancement timeline of other recommended projects should indicate the advanced need for this project, i.e. when Option C is being designed, further planning and design for Option NEW 3 should already be underway.

**Alternate NEW 4**

- **Design** - new Correction’s Access Road (Luther Luckett Collector) – new connector road along Corrections Department Property from vicinity of existing reformatory entrance / KY 146 to Dawkins Road.

- **Purpose** - to alleviate through traffic along Spring House Pike and provide a new route for commercial / truck traffic going to the correction’s facilities at the KSR and Luther Luckett.

- **Traffic / Transportation** - the route would attract between 1,000 and 3,000 ADT in 2025 and operate at LOS B or better.

- **Cost** - costs are anticipated to be $1.8 M to $2.2M

- **Impacts** - there are no community impacts anticipated and only one cultural / historic impact

- **Execution** - the new roadway adds an alternative route for commercial vehicles bound for the corrections complex and would divert a significant volume of traffic bound for the KSR and Luther Luckett that would otherwise use portions of recommended Bypass Option A. It would be part of a package of mitigation measures that would be implemented and is highly effective as a stand-alone project. It could be implemented in the short time frame.

**NOTE:** The idea of an alternate means of access to the KSR and Luther Luckett facility, with Alternate NEW 4 should be implemented as a stand-alone project.
that would be necessary and beneficial for local residents and for the Department of Corrections.

Alternate 55

- **Design** - KY 146 from KY 393 to 6th Street - widen to four lanes. This is an upgrade of the existing KY 146 from 2-lanes to 4-lanes with shoulders. The widening would run from approximately 6th Street, so as to not affect the downtown LaGrange historic district, westward to the intersection with KY 393.

- **Purpose** - the upgrade would handle the anticipated volume of traffic in 2025 at LOS B and would improve circulation on the main east – west route in the north study area.

- **Traffic / Transportation** - anticipated volumes are between 10,000 and 17,000 ADT.

- **Cost** - the improvement would be anticipated to cost between $11 M to $13 M.

- **Impacts** - the upgrade would impact between 8 to 12 existing residences, mainly those that have driveways and/or yard frontage along existing KY 146. Also, there are anticipated to be 11 potential historic archaeological sites impacted and 4 cultural / historic sites impacts.

- **Execution** - the project directly addresses access and circulation concerns and would allow greater volumes of traffic to flow more freely thus reducing congestion and delay, and provide a higher capacity alternative east – west route to Commerce Parkway. The high volumes though are predicted for the outlying years of the study, and the predicted LOS is better than the C threshold at B. Therefore, the project is recommended for implementation in the long time frame although it receives a high rating for feasibility / meets goals and objectives.

Alternate 45

- **Design** - North Bypass Option A – New Moody Lane (KY 2857) to KY 53 via I-71 overpass, relocated Allen Lane, extended Spring House Pike, new road to Old Sligo Road. The bypass is envisioned to be 2-lanes either in an urban cross section with curb and gutter, having two 12-foot travel lanes, a 20-foot median and left turn lane, and a multi-use trail (through Spring House Estates), or a rural 2-lane section with open ditches for other parts of the alignment. Traffic signals are planned for the bypass at (1) KY 53 / Old Sligo Road, (2) Fendley Mill Road, (3) Dawkins Road, (4) KY 146, and (5) Commerce Parkway. Although the recommended lanes are only 2, consideration of additional future right-of-way should be exercised. It may necessary at some point in the future to consider widening the bypass to 4-lanes depending upon access and development that may or may not occur. This issue should be revisited during final design for the roadway and through the impending Oldham County Thoroughfare Plan.

- **Purpose** - this is the recommended 2-lane bypass option for the north portion of the study area that basically functions as a collector and provides an alternate / relief route for KY 53 especially through downtown LaGrange. The route also provides direct access from KY 53 and KY 146 to the Oldham County Business Park, a streamlined connection to I-71 at the KY 146 / KY 393 interchange, and unimpeded access under the CSX railroad tracks at Allen Lane.
• **Traffic / Transportation** - after careful consideration of all factors and a complete analysis by the study, it was concluded that Option A is the best choice for contributing improvements to the entire transportation system in the study area. (See further discussion in Section 10.5.) This roadway functions at LOS C to D depending upon segment and attracts 2,700 to 9,300 ADT in 2025. The option greatly improves access and circulation in the study area and does so in a safe and efficient manner.

• **Cost** - the costs of the roadway are anticipated to be between $15.1 M and $18.8 M and include mitigation and extra aesthetic design treatments (multi use path, new access, landscaping treatments, etc.) for the urban section through Spring House Estates. (See further discussion on mitigation measures in Chapter 12.)

• **Impacts** - the alignment would impact between 0 and 5 homes, all of them in the Spring House Estates subdivision. Zero residences could potentially be affected because there is an existing 60-foot dedicated right-of-way for the bypass along Spring House Pike from KY 146 to Dawkins Road. Therefore, potential impacts to Spring House Estates could be reduced to affect no existing homes in the subdivision. If some additional impacts arise due to design details, mitigation measures, etc., the direct number of impacts to residences would be as few as 5. These properties would be the only ones foreseeably eligible for Federal relocation assistance under current guidelines. Additionally, there are 7 potential historic archaeological sites that may be affected. There are no anticipated environmental impacts.

• **Execution** - in terms of priority / phasing, portions of the project could be implemented in the short, medium and long-term time frames. For example, the segment that encompasses the Allen Lane underpass of the CSX railroad and the extension over I-71 via a new bridge could begin designed and constructed in the short-term time frame. Likewise, the extension of Spring House Pike through to Dawkins Road could also begin in the short term and would be contingent upon the development of Majestic Woods. For example, once a residence in Majestic Woods is issued a certificate of occupancy (CO), the extension of Spring House Pike north of Manning Place to Dawkins Road should be immediately completed. The other sections of the collector, those north and northeast of Dawkins Road, would be programmed for the medium to long-term time frame.

NOTE: Along with Option A, the idea of an alternate means of access to the Luckett facility, along a new roadway to the west of Majestic Woods from KY 146 to Dawkins Road as outlined in Alternate NEW 4 (above) should be implemented as a necessary stand alone project that would be necessary and beneficial for local residents, especially those in Spring House Estates and the KSR.
LaGrange Bypass Feasibility Study
Executive Summary of Findings and Recommendations

August 2002