



**Transportation, Emergency, and Environmental GIS Services**

Team Members

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**T.E.E.G.S.**

Progress Report TO:

Ana V. Gonzalez

Lauren Rowe

Austin Parks and Recreation

March 25th, 2013



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1. **Introduction**

**Attention:** Ana V. Gonzalez & Lauren Rowe

 Transportation, Emergency and Environmental GIS Services (T.E.E.G.S.) would like to submit to you a report on the progress we have made in regards to the city of Austin Parks and Recreation departments request for a comprehensive tree hazards inventory.

This report will contain an overall review of the project description and will inform you about the work completed as of March 25th, 2013, the work we are in the process of finalizing and any problems or project design changes we have encountered up to this point in the project.

**Project Description**

The purpose of this project is to generate a comprehensive tree hazard inventory for the city of Austin Parks and Recreation department to facilitate theidentification and removal ofpotential tree hazard locations along city roadways. A ranking system will be used to highlight areas with the greatest threat potential in order to prioritize preventative tree maintenance. The ranking system will take into account major roads used in emergency situations, areas of high tree density in relation to locations of hospitals, fire stations and other emergency management services. T.E.E.G.S. will accomplish this by utilizing a GIS to analyze the existing tree shade index and identifying areas of high tree density which intersect or overlay with high priority emergency service routes.

 **Scope**

Our study will include the City of Austin; including but not limited to the city limits. The study will take approximately 3 months to complete.



**II.Work Completed**

As of March 25, 2013, T.E.E.G.S. has completed the following tasks that the City of Austin Parks and Recreation department has asked to be done:

A.The City of Austin’s tree canopy density and location has been identified and included in our data set by using Light detection and ranging (LIDAR) data collected in 2006

B. A comprehensive road network of Austin has been created based on 2010 data

C. Location and verification of emergency service locations (Hospitals and police/fire stations) have been integrated into the road network

D. Location of schools (elementary, middle and high) have been integrated with the road network

E. Population density based on 2010 census blocks

**III.Current Work**

 In order to finalize and supplement the work done as of march 25th, 2013 T.E.E.G.S. is currently working on the following tasks:

A. Verifying accuracy of emergency service locations (police/fire stations, Hospitals)

B. Beta testing of methodology (proof of concept)

C. Identification of population centers based on 2010 census blocks

D. Sample final deliverable maps



**IV.Future Work**

2006 polygon file of roads was used in conjunction with a 2010 road network

2006 LIDAR data

**V.Problems/Obstacles**

 In order to complete and finalize the comprehensive tree hazards inventory, as requested by the city of Austin’s Parks and Recreations department, T.E.E.G.S. will complete the following tasks.

A. Routing from emergency services locations to destination points

B. Prioritize streets based on emergency services routes

C. Creation of metadata for the data sets created as a result of this project

D. Creation of final report and final maps

E. Creation and publication of a website containing the project

**Timetable**

Data Collection:

|  |
| --- |
| Weeks 1-4  |

Pre-Processing of Data

|  |
| --- |
| Weeks 4-5 |

Data Analysis

|  |
| --- |
| Weeks 6-8 |

Data Interpretation

|  |
| --- |
| Weeks 9-11 |

Important Dates:

*February 20th:*

Presentation of Project Proposal to Client

*March 25th:*

Progress Report and Presentation

*May 3rd:*

Final Project Presentations



|  |  |
| --- | --- |
| Week | February |
|  |  |  |  |  | 1 | 2 | 3 |
|  | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|  | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 1 | 18 | 19 | 20\* | 21 | 22 | 23 | 24 |
| 2 | 25 | 26 | 27 | 28 |  |  |  |

|  |  |
| --- | --- |
|  | March |
|  |  |  |  |  | 1 | 2 | 3 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 4 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 5 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 6 | 25\* | 26 | 27 | 28 | 29 | 30 | 31 |

|  |  |
| --- | --- |
|  | April |
| 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 9 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 10 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 11 | 29 | 30 |  |  |  |  |  |

|  |  |
| --- | --- |
|  | May |
| 11 |  |  | 1 | 2 | 3\* | 4 | 5 |
|  | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|  | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
|  | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|  | 27 | 28 | 29 | 30 | 31 |  |  |



**Final Deliverables**

* Final Report
* Professional Poster
	+ Map of Tree Shade
* Website
* CD containing:
	+ Metadata
	+ Final Report
	+ Poster
	+ PowerPoint Presentation
* Table containing Block Ranking for Tree Maintenance
* Map of High to Low Priority areas for the City of Austin
* Map of streets more highly utilized by emergency services

The final delivery for this project will be a table detailing city blocks and ranking them from most in need of immediate attention to least. This table will be accompanied by a map which shows the area’s most in need of attention. There will also be a general map showing the areas of the City of Austin ranked from highest need to lowest. A map of the streets we analyzed to be most important to emergency services will also be included.

**IV. Conclusion**

 Structurally weekend and damaged trees falling onto and around city roadways presents an unnecessary obstacle to the City of Austin’s emergency response services. T.E.E.G.S. possesses the Geographic Information Systems (GIS) experience and expertisenecessary to help the City of Austin Parks and Recreation Department successfully manage and mitigate potential tree hazards in the future.