SPANISH FORK CRASH DATABASE
PROJECT ID: CEEN_CPST_001

by

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A Capstone Project Draft Report

Submitted to

Dillon Muirbrook
Spanish Fork City

Department of Civil and Construction Engineering
Brigham Young University

April 8, 2024

Executive Summary

PROJECT TITLE: SPANISH FORK CRASH DATABASE
PROJECT ID: CEEn_CPST_001
PROJECT SPONSOR: Spanish Fork City
TEAM NAME: Safetybase

The objective of this project was to create a geo-database of the vehicle crash history in the city of Spanish Fork, Utah. This included making a GIS program with the locations of each crash in the city, data for each crash, and a user-friendly interface for the program. The user interface can easily update the crash history. The main function of the program is to easily geo-locate and view the crash history of the city.

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Introduction

The objective in developing the Safetybase tool was centered on improving the efficiency and accuracy with which Spanish Fork City analyzes and locates crashes on an interactive GIS interface. This tool is specifically designed to aid the city engineers in identifying high-risk areas, thus facilitating more informed and effective decisions for safety improvements and countermeasures. The project is built on the detailed analysis of Spanish Fork City Police report data. A Python script was created for precise georeferencing and utilized ArcGIS Pro for dynamic data display and interactivity. The aim was to create a system that not only solves current safety issues but also improves traffic management and urban safety in the community. Rather than trying to sort through a long list of crash data, the new system will allow the city engineer to easily see which parts of the city road network have frequent accidents and require improvements to be made. This tool is expected to help the city engineer reduce crashes in the city.

Schedule

Monthly milestones for the project are listed below:

- **January**
  -The preexisting dataset was analyzed
  -Coding was completed to turn police report data into GIS datapoints
- **February**
  -Coding was completed to convert an updatable Excel sheet into GIS datapoints
- **March**
  -Base server was found with the city's GIS experts
  -Easy-to-use interface was made to view the data
- **April**
  -Project report is completed
  -Completed project is transferred to the city

Assumptions & Limitations

There are several assumptions that were made in the development of this project that limit the usability of the system. These assumptions and their correlating limitations are explained below.

Some of these assumptions relate to agencies at the city of Spanish Fork and their persistence in updating the database regularly. For one, it is assumed that the police crash reports will be accurate and updated regularly. It is also assumed that someone at the office of the city engineer will upload the data from the reports. Ideally, both tasks will be completed at least monthly to maintain an accurate and up to date database.

Another assumption made is that the police reports will give accurate location data. The program is designed to take an address in the city and convert it into latitude and longitude coordinates that will be displayed on a GIS map. Many early pieces of the database give generic descriptions of places, such as “Main St” or “in front of Walmart,” which are impossible to automatically pinpoint to an exact location. The software is not designed to interpret data like this and convert it into exact coordinates, and therefore will not display data points with vague location descriptions. The past few years of data have had clear and exact location data given; this should be continued to maintain the integrity of the mapped data. An example is given below.

An example of **acceptable** location data would look like this:

1430 E 400 N

An example of **unacceptable** location data would be like this:

Near Rees Elementary School on 400 N

Design, Analysis & Results

The plan to accomplish the objective was to use the given police crash reports and convert the data to an easy-to-navigate and updatable ArcGIS map. This would allow the city engineers to see which areas of the city have frequent crashes and find areas for possible safety improvements.

Each month, the police department sends a spreadsheet report that includes crash data from that month to the office of the city engineer; a sample of this report can be seen in Appendix B. The team began by sifting through these police reports, which include crash data beginning in 2015. Data included for each crash includes the location, time, date, intersection type, the first harmful event, collision type, and the severity code for each crash. These entries are then added to a composite spreadsheet at the office of the city engineer. At the time of completion of the project, the existing database contains well over 8,000 crash entries. Each month when the police report is received, the composite sheet is updated. A small portion of the composite spreadsheet is shown in Figure 1.

	A	B	C	D	E	F	
1	Street	Date	Time	In	Type of Inter	F	First harn
7195	899 N SR 51 HWY	11/17/2022	18:17	0	Not Reported	20	Operatin
7196	S MAIN ST & E 300 SOUTH ST	11/18/2022	10:53	20	4-Leg Intersect	20	Operatin
7197	787 N US 6 HWY	11/18/2022	12:43	0	Not Reported	20	Operatin
7198	700 N MAIN ST	11/18/2022	11:45	0	Not Reported	20	Operatin
7199	800 E CANYON RD	11/19/2022	08:38	20	4-Leg Intersect	20	Operatin
7200	187 E 1000 NORTH ST; MACEYS SF	11/19/2022	15:31	0	Not Reported	20	Operatin
7201	898 S SPANISH FORK PKWY; WALMART SF NEIGHBORHOOD	11/19/2022	16:09	0	Not Reported	20	Operatin
7202	800 E US 6 HWY	11/21/2022	06:51	0	Not Reported	20	Operatin
7203	900 N 600 EAST ST	11/21/2022	11:54	0	Not Reported	20	Operatin
7204	273 E 1000 NORTH ST; COSTCO SF	11/21/2022	14:42	0	Not Reported	21	Parked M
7205	600 N MAIN ST	11/21/2022	15:59	0	Not Reported	20	Operatin
7206	500 E 200 NORTH ST	11/21/2022	22:12	0	Not Reported	63	Fence
7207	879 N SR 51 HWY	11/22/2022	17:41	0	Not Reported	20	Operatin
7208	900 N MAIN ST	11/22/2022	18:34	0	Not Reported	20	Operatin
7209	1225 S MAIN ST	11/22/2022	17:57	0	Not Reported	20	Operatin
7210	976 E EXPRESSWAY LN	11/22/2022	15:34	0	Not Reported	20	Operatin
7211	E 800 NORTH ST & E EXPRESSWAY LN	11/22/2022	18:13	0	Not Reported	20	Operatin
7212	866 E 500 NORTH ST	11/23/2022	08:15	0	Not Reported	21	Parked M
7213	283 S 880 WEST ST	11/23/2022	13:09	0	Not Reported	20	Operatin
7214	N MAIN ST & E 700 NORTH ST	11/23/2022	08:01	0	Not Reported	21	Parked M
7215	400 N 800 EAST ST	11/24/2022	19:04	24	Roundabout	19	Other No
7216	E US 6 HWY & E CENTER ST	11/24/2022	21:16	20	4-Leg Intersect	20	Operatin
7217	E US 6 HWY & S SPANISH FORK PKWY	11/25/2022	16:32	20	4-Leg Intersect	20	Operatin
7218	700 N MAIN ST	11/25/2022	17:30	0	Not Reported	20	Operatin

Figure 1 – Sample composite spreadsheet data.

A Python program was then developed to give each data point a latitude and longitude coordinate by using a built in ArcGIS geolocator. The program takes those assigned coordinates and transfers them to an interactive GIS map. A sample of the map is shown in Figure 2.

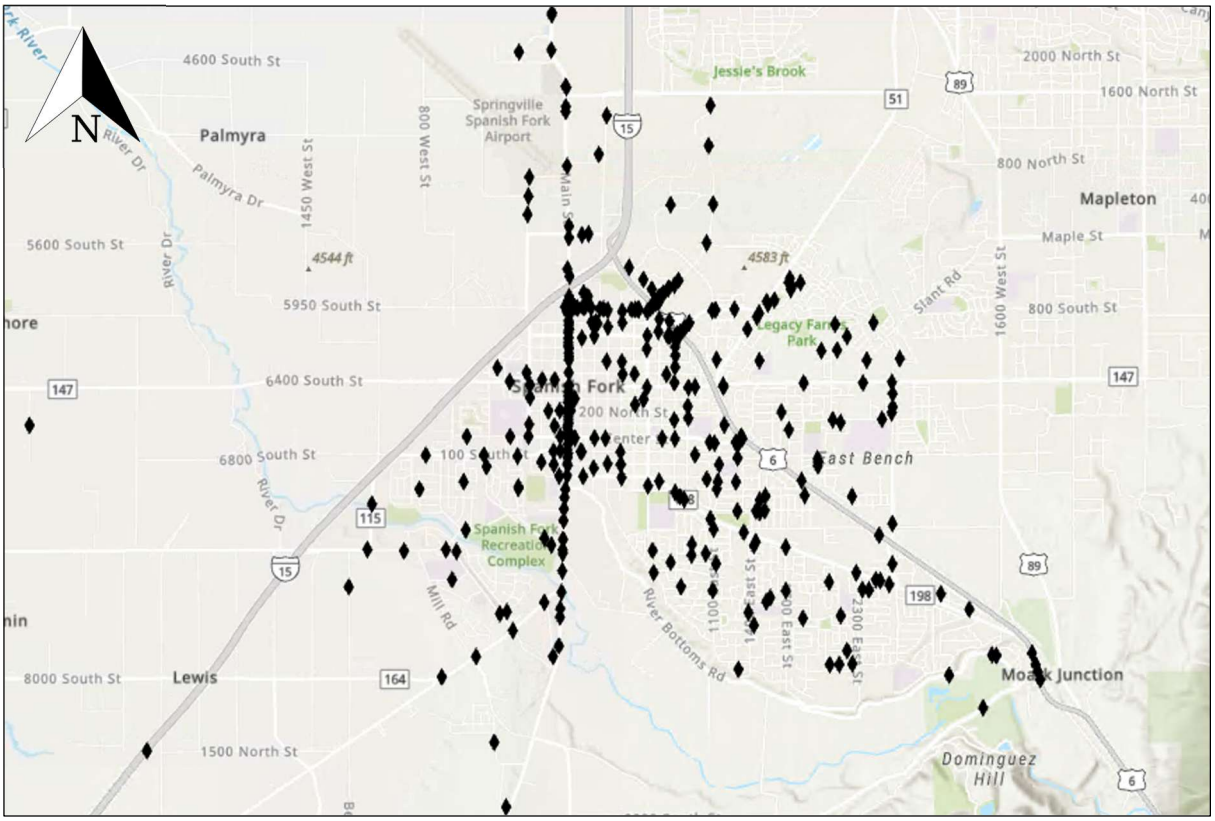

Figure 2 – Sample interactive GIS map. Each black diamond represents a crash site.

The map can be viewed in an interactive and user-friendly dashboard, as can be seen in Figure 3. The map reflects updates on the base spreadsheet, so new police reports can be added to the map each month with a simple copy and paste procedure from one spreadsheet to another. Figure 4 shows the display of data when a specific crash point is selected. Advanced filtering capabilities allows the viewer to sort by date, severity, and other factors. The interface and map will serve as an excellent tool for the city engineer.

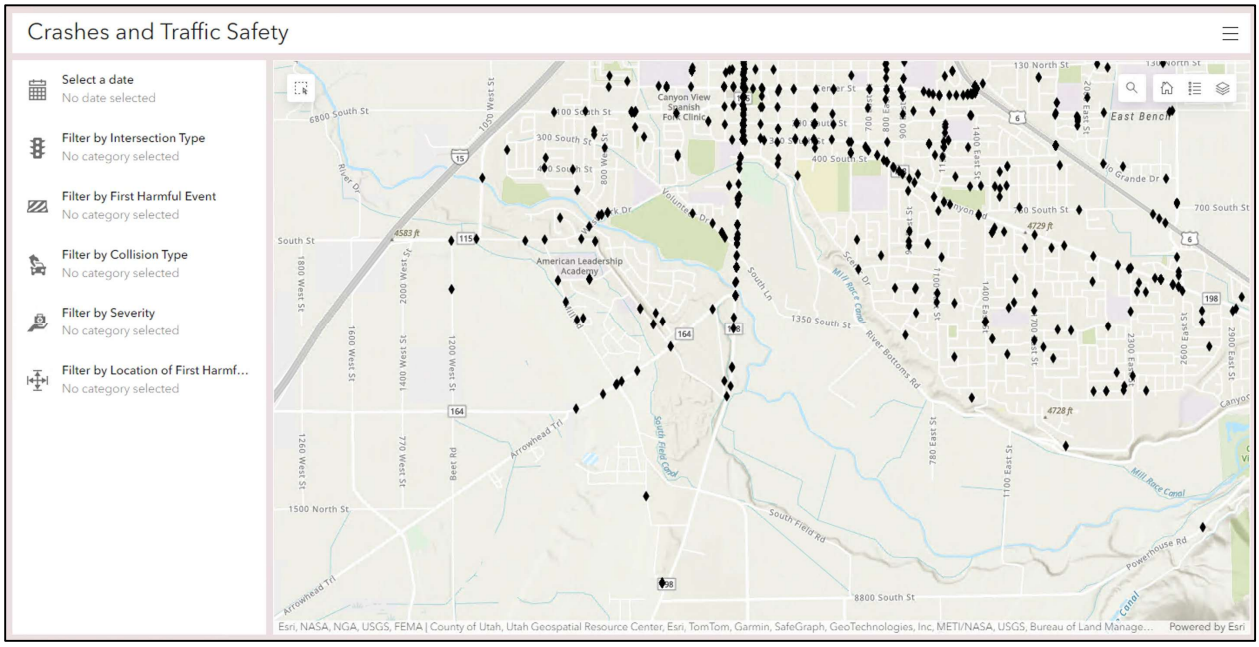

Figure 3 – Interface and dashboard of the geo-database. Advanced filter factors are on the left.

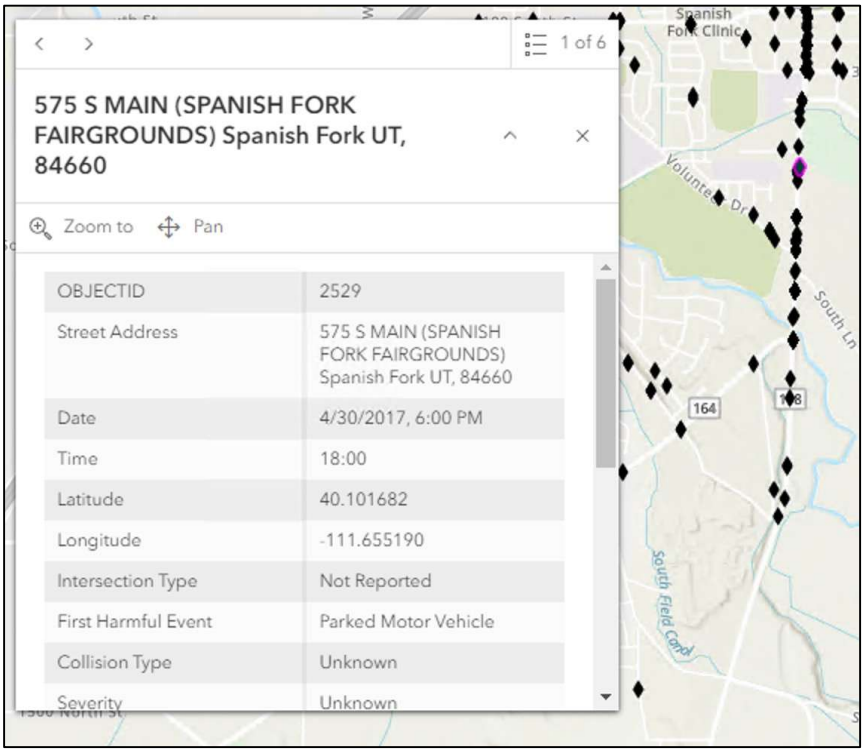

Figure 4 – Crash data display when a specific crash point is selected.

Related Issues

Safetybase has important implications for the world of safety. Vehicle crashes are a leading cause of death in the United States each year and are an important issue considered by Spanish Fork City officials as they make decisions regarding transportation. This is an especially important issue because Spanish Fork City has experienced a 16% total population growth in the last decade[1]. With that growth has come the objective of trying to find appropriate and safe transportation solutions for the residents of the city. In this project, problem areas were identified by compiling and analyzing the data, and then by creating a model to help visualize and consolidate that data into a useful format. The engineers at Spanish Fork City will be able to use the model to identify existing complications and then use the facets of the civil engineering sub-discipline of transportation engineering to suggest countermeasures that could improve the safety of the transportation system in Spanish Fork City.

Economically Safteybase has many implications. New asphalt, new traffic signals, land acquisition, law enforcement, and other engineering projects all come at large expense. With the right analysis, the right data, and the right model to understand that data, countermeasures can be identified that will turn these costs into investments that will reap dividends for the city and for its residents in the future. Fewer crashes will mean that less money needs to be spent repairing property damage (both private and public), on law enforcement, and on litigation. Residents will also be happier and safer as they use the transportation systems that are put in place. It may even mean more people and businesses decide to move into the city, increasing tax revenue. This can especially be true of businesses that often have expectations and requirements for intersections and roadways near their proposed developments before they make the final decision to come to the city. If those expectations and requirements are already being met by an improved transportation system in Spanish Fork City, they will be more likely to consider Spanish Fork as an as they look to expand their business.

From the perspective of public health and safety, vehicle crashes can lead to fatalities or serious injuries which are detrimental to public health. This is especially true if the design of the roadway, intersection, or signage has influence on these vehicle crashes. Through mapping these crashes in an easy-to-use model, Safteybase will help transportation engineers at Spanish Fork City identify which intersections and roadways have problems, so that they can do a deeper analysis and find countermeasures to fix any potential problems at these locations that might be contributing to these crashes and endangering

the public health. Ultimately the safety of residents as they use the roadways is always a top priority as engineers plan their design. This model will allow the engineers in Spanish Fork City to do so much more effectively and easily, potentially saving lives of the residents as potential problems with the roadway design are identified sooner than they would have otherwise been.

Environmentally, Safteybase may have a large impact as well. Transportation engineering places high priority on efficiency and on being eco-friendly. For example, perhaps there is a road where every single intersection on that road has a higher-than-expected number of crashes. Improvements to public transportation, bikes lanes, or alternate routes may be suggested to help solve the problem. And while these may help improve the crash problems, all those solutions would also mean fewer vehicles idling at traffic lights and thus, a more eco-friendly transportation system. Fewer crashes in Spanish Fork City would also help the environment because less vehicle damage means fewer new cars will need to be produced to replace totaled vehicles, and fewer replacement parts for repairs will be needed.

As stated, one solution for high crash roads and intersections might be public transportation or improved bike lanes. Thus, Safteybase may have a positive impact on Spanish Fork City socially as well. Low-income families often struggle to afford reliable vehicles and thus aren't benefited much by improved roadways. If one of the solutions for crashes is public transportation or bike lines, these low-income families would be more able to meet their transportation needs, which would lead to more opportunities for employment, education, and other benefits. This would help Spanish Fork City develop socially as these low-income families gain new opportunities for growth in the community.

Safteybase may have a long-reaching impact on the city of Spanish Fork and may even inspire engineers in other cities to create similar models to help improve their transportation systems. It may take time for its true effect to be seen, but it is theorized that Safteybase may improve the life of citizens of Spanish Fork and give them a deeper sense of security as they navigate through the transportation needs of their daily lives.

Lessons Learned

The challenges that were overcome while working on this project ranged from technical issues to communication issues and more. For example, many of the locations on the police reports are incomplete and create an interruption in the geolocator process, which required us to build the Python program around those issues. Another issue that we had to overcome was conflicting schedules. Each team member is a full-time student with jobs and families with schedules that fluctuated throughout the semester. The team met every week but if any team member had to miss the meeting, they were responsible for getting caught up and ensuring that everyone was on board with the delegated weekly responsibilities.

The main thing learned about engineering from this project is that it is about overcoming obstacles. The team was very calm when issues came up and would counsel with one another to find solutions to problems. Engineering requires a thoughtful, yet calm, approach to every issue. It also requires a collaborative approach, considering not just one's own knowledge, but consulting the ideas of their teammates as well.

Conclusions

A well-defined problem is an important first step towards selecting the right countermeasure. The team has learned the truth of that as the project objectives have been achieved. It has been apparent that some transportation problems in communities are left unsolved because they aren't properly identified. The geo-database that has been created is an effective tool to properly identify these problems. Safteybase will help Spanish Fork City engineers define safety problems so that the needed countermeasures are more apparent to decision makers in the city. Even the wisest and most experienced engineers and city officials may struggle to make the right decisions if they lack the proper data, or understanding of that data, to make the decision. Safteybase is designed to make that data as accessible as possible. The real long-term impact on the community of Spanish Fork of this project will only be seen after the Spanish Fork City engineers implement the model created by this project.

Recommendations

The team recommends that the database be updated monthly with the crash data provided by the Spanish Fork City Police Department (SFPD). Updates to the database should be made in the following way, as to best integrate the data with the database:

1. Save the Excel file provided by SFPD as a .xlxs or .xls file type. Before saving, ensure that all values have been transformed into numerical values, as the codes often come in from the police department as text values.
2. Open the Crashes and Traffic Safety project file found at the following file path J: Shared Drives → Public Works → Engineering → Transportation → Traffic Safety.
3. Using the "Append" tool, add the values from the .xlxs or .xls file.
    a. Select the .xlxs or .xls file as the Input Table, and the Input Address Table as the Target Table.
    b. Choose the option to "Reconcile differences using the field map."
    c. Match each field on the left to the correct field on the bottom by selecting the appropriate field. For example, Street Address would be matched to Street, and Severity Code would be matched to SevCode. The fields that should remain unmatched are as follows: Latitude, Longitude, First Harmful Event, Severity, Location of First Harmful Event, Intersection Type, Collision Type, and Notes.
    d. Select "Run," and verify that the crash data has been appended to the "Input Address Table."
4. On the right-hand side, select the tab "Catalog." Click the "Toolboxes" drop down, and locate the "MyProject3" dropdown. Navigate to the model entitled "Run First: Spanish Fork Address Model," double click it, and select "Run." This will remove any unnecessary text in the address, as well as add the suffix "Spanish Fork UT, 84663."
5. In the "Contents" pane, right click on Input Address Table, and select "Geocode Table." The inputs should be as follows:
    a. "Input Locator" select "World" from the drop down. If nothing appears in the drop down, the database may need to be reconnected. To do so, go to the "Catalog" pane, right click on "Locators," and choose "Add Server." In the window that pops up, select "servers on geocode.arcgis.com.gs" under

Project → Servers. From there, select "World," and it will appear in the dropdown.

b. "Input Table" can be left as is, but the second drop down should be set to "one field."
c. "Data Field" should be set to "StreetAddress."
d. "Output" should NOT be changed (if renamed, it will not be correctly referenced in the models). "Preferred Location Type" should be set to "Routing Location," and "Output Fields" should remain set to "All."
e. Select "United States" as the "Country" field.
f. Select "Address" and "Postal" for the "Category" field.
g. Click "Estimate Credits" at the very top of the pane, it is ok if the message "Credits cannot be estimated" appears. The estimate must be attempted for the tool to run.
h. Click "Run."

6. Navigate back to the "Toolboxes" dropdown in the "Catalog" pane. Double click "Run Second: Append Geocode to Traffic Safety."
7. Double click "Run Third: Calculate Codes and Reset." The data will now appear, and the codes will be accurately calculated. Keep in mind that it may take several minutes for the data points to appear, but they have been appended.
8. In the same "Catalog" pane, under "Databases," select "CrashesandTrafficSafety.gdb." Right click "Address_Geocode," and select delete. This must be done to fully reset the program for next month's addresses.
9. Save and exit.

Appendix A: Student Resumes

Andrew Heathcote

844 E 560 N Apt. 2 · Provo, Utah 84606
(805) 990-9347 · aheathcote24@gmail.com

EDUCATION

Brigham Young University, Fulton College of Engineering — Dec 2024
Bachelor of Science, Civil Engineering, Emphasis in Construction — Provo, Utah
- GPA 3.48

SKILLS
- **Proficient:** CAD, Excel, Bluebeam Revu, electrical work, plumbing
- **Moderate:** VBA, Python
- **Familiar:** QuickBooks, Concrete Paving

RELEVANT EXPERIENCE

BYU Department of Civil Engineering — Aug 2023 – Present
Teaching Assistant – CE 361 Introduction to Traffic Engineering — Provo, Utah
- Taught and instructed students on difficult subjects
- Prepared students for exams
- Graded assignments

Acute Engineering — May 2022 – Aug 2023
Structural Engineer in Training — Orem, Utah
- Designed internal structure of 4-5 residential structures each week
- Adhered to strict deadlines set by client managers; practiced efficient time management
- Prepared drawings to be presented to clients

Heathcote Engineering Inc. — May 2021 – Jul 2021
Site Manager, Superintendent, Construction Laborer — Port Hueneme, California
- Led and instructed a crew of four to initiate a new home renovation project
- Acted as primary on-site communicator with inspectors and joint contract companies
- Served as primary electrical and plumbing renovator

OTHER EXPERIENCE

BYU Maintenance — Aug 2021 – Apr 2022
Maintenance Worker — Provo, Utah
- Resolved approximately 15-20 maintenance issues in BYU housing per week
- Carried out request in an organized, quick, and efficient manner

The Church of Jesus Christ of Latter-Day Saints — Aug 2018 – Mar 2020
Full-Time Representative — Manila, Philippines
- Accepted leadership positions to help provide training and increase productivity
- Trained new representatives and helped them adjust to full-time service
- Acted as an ambassador of the church full-time

www.linkedin.com/in/andrew-heathcote

Mckenzie Loo

A Civil Engineering Intern with experience in traffic and transportation design and community development.

647 Swenson Ave
Apt 6
Springville, UT 84663
https://www.linkedin.com/in/Mckenzie-loo
(541) 452 - 2266
mckenziehloo@gmail.com

EDUCATION

Brigham Young University, Provo, UT — *Civil Engineering*

Bachelors of Science in Civil Engineering GPA 3.34/4.0 GRADUATION APRIL 2024

EXPERIENCE

Spanish Fork City, Spanish Fork, UT — *Traffic and Transportation Engineering Intern*

DECEMBER 2022 - PRESENT

- Executed 10 + studies on signals, stop signs, speed limits, etc., to assess the implementation of warranted changes in the designated areas.
- Collected precise survey topography data to draft accurate CAD plans for upcoming transportation projects. Utilized the acquired data to create line item estimates for the projects.
- Utilized arcGIS to develop precise representations of Spanish Fork's Transportation Master Plan. Leveraged the software's advanced functionalities to communicate the proposed transportation strategies.
- Engaged proactively with community members to address and resolve concerns related to traffic hazards and speeding.

Mountainland Association of Governments, Orem, UT — *Community Development Intern*

FEBRUARY 2022 - SEPTEMBER 2022

- Interacted with members of town planning commissions to create a working general plan to protect the current and future community.
- Evaluated existing transportation and residential infrastructure to determine if it would support the extent of projected growth.
- Compiled an index of 15 neighboring transportation projects and analyzed the probable effect and proposed recommended solutions to preserve the rural character of the area in question.

LEADERSHIP

American Society of Civil Engineers (ASCE) — *Vice-President*

AUGUST 2021 - APRIL 2022

- Selected and communicated with 9 renowned civil engineers from varying fields of emphasis to present about their research and current projects.
- Coordinated travel, lodging, meals, and a student escort for each of the abovementioned presenters.
- Planned and executed two student networking dinners with 15+ large civil engineering firms represented.

SKILLS

Able to negotiate differences of opinion in a professional and unbiased manner

Capable of taking initiative and meeting deadlines in project management

Knowledgeable in regards to MUTCD, HCM, and HSM

Proficient in ArcGIS and AutoCAD design

Experienced with Microstation and OpenRoads

AWARDS

ASCE ISWS Transportation Design Competition - *First Place*

LANGUAGES

Fluent in Latvian with a two year living abroad experience

INTERESTS

Tennis

Own and operate an event decor and decor coordination company

Calligraphy and graphic design

Antonio Ruiz

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EDUCATION

Brigham Young University April 2024
Bachelor of Science: Civil Engineering, Emphasis in Transportation Provo, UT

- GPA 3.2
- BYU ITE Student Chapter
- 2023 ASCE ISWS Transportation Competition First Place
- Coursework: Traffic Engineering, Engineering Applications of GIS, Foundation Engineering, Fluid Mechanics, Engineering Modeling

PROJECTS/RESEARCH

SPF Safety Modeling March 2023-Present
Research Assistant Provo, Utah

- Conducted a literature review for research assistants
- Developed skills in R programming
- Experimented in developing statistical functions using regression techniques

EXPERIENCE

Avenue Consultants, Inc. May 2023-Present
Traffic Engineering Intern Taylorsville, UT

- Performed 15+ traffic studies
- Conducted a range of field data collection tasks
- Analyzed volumes to identify potential traffic signal locations for St. George City

Brigham Young University April 2022-May 2023
CAD/GIS Specialist Provo, UT

- Managed CAD and GIS files for campus irrigation system
- Performed inventory tasks
- Analyzed water rights usage

VOLUNTEER EXPERIENCE

BYU ITE Student Chapter April 2022-Present
Vice President Provo, Utah

- Planned and organized a student leadership conference for 50+ attendees
- Prepared progress reports and grant proposals
- Represented students in ITE Student & Young Member Committee Meetings

SKILLS/ACHIEVEMENTS/ABILITIES

- Spanish
- Portuguese
- Eagle Scout
- Soldering and Wiring
- Arduino Programming
- Python Programming
- Lightsaber Design using CAD
- Weight raining
- Mixed Martial Arts
- Krav Maga

Keeton J. Knight
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EDUCATION

Senior Student at Brigham Young University — Provo, UT
BS, Civil Engineering – 3.25 GPA — Graduation: Apr 2024

- Demonstrated excellence in: Reinforced Concrete Design (A), Structural Wood Design (A-), and Foundation Engineering (B). Currently striving for distinction in Structural Steel Design and Prestressed Concrete Design.
- Showcased additional proficiency in Statics, Mechanics of Materials, Structural Analysis, Soil Mechanics, Drafting (AutoCAD and Revit), Structural Materials (steel, wood, concrete, etc.), Calculus, Ordinary Differential Equations, and Linear Algebra.
- FE Exam: Passed

WORK EXPERIENCE

Acute Engineering — Orem, UT and Sandy, UT
Student Production Engineer — May 2021- Present

- Implemented engineering design on 100+ light-frame structures both laterally and vertically using Excel, Risa3D, Risa Connection, Forte, Simpson Anchor Designer, other software, and Hand-Calculations to provide complex engineering solutions in a variety of Structural Materials:
  - **Wood:** Shear Walls (Segmented, Perforated, Force Transfer), Portal Frames, Simpson Strong Walls, Hold-Downs, Bearing Walls, Columns, Diaphragms (including Blocked Diaphragms), Beams (Solid Sawn, LVL, GLB), Connections (Simpson Strong-Tie), Trusses, Floor Joists, Rafters, and Timber Frames.
  - **Concrete:** Foundation Walls, Footings, Retaining Walls, and Suspended Slabs (including Composite and Precast).
  - **Steel:** Ordinary Moment Frames, Wide Flange Beams, Welded and Bolted Connections, and HSS Columns.
- Devoted study and careful application of relevant codes, procedures, and preferences for Structural Engineering and construction, including ASCE 7-22 (especially Seismic, Wind, Snow, Live, Dead Loads, and ASD and LRFD Load Combinations), IBC 2021, IRC 2021, NDS 2018 (including NDS Supplement and SDPWS 2021), AISC Steel Construction Manual (AISC 360-22), and ACI 318-19.
- Precisely drafted 100+ full Structural Plans including Framing Plans, Lateral Plans, Foundation Plans, Schedules, and Custom Detail Sheets in AutoCAD and Bluebeam.

Brigham Young University — Provo, UT
Teacher Assistant; Introduction to Civil Engineering — Jan 2021- May 2021

- Sparked interest in Civil Engineering in 57 first-year students as they were helped to cultivate University skills.

LEADERSHIP & SERVICE

The Church of Jesus Christ of Latter-day Saint — State of Chihuahua, Mexico
Volunteer Representative — Feb 2017 - Jan 2019

- Mentored over 100 other volunteers while living in 15 different cities in Southern Chihuahua, and daily labored, lived, and worked hand in hand with 19 volunteers as people's lives were reshaped and coordination established between many groups using problem solving, public speaking, and teaching skills in the Spanish language.

Builders Without Borders — Ensenada, Mexico
Humanitarian Framer — Dec 2023 - Jan 2024

- Constructed from scratch two homes for impoverished families in Ensenada, Mexico, assisted in Spanish Translation, and developed personal relationships with the incredible parents and children of the families receiving the new homes.
- Forged skills in Wood Framing Methods and matured in Engineering Judgement through field experience working in a team on a jobsite.

Appendix B: Sample Police Report

Street	Date	Time	Type of Intersection	First harmful event	Collision type	Severity code	Locatn of first harmful event
E 900 NORTH ST & N MAIN ST; Wiggy Wash	01/31/24	13:22					
1192 N MAIN ST; UNDERPASS MAIN SF	01/31/24	13:53	00	20	4	1	01
E US 6 HWY & E EXPRESSWAY LN	01/31/24	16:36	00	20	4		01
100 E CENTER ST	01/31/24	19:33	00	20	1	2	01
200 E 700 NORTH ST	01/30/24	10:57	20	20	1	1	01
371 E 1000 NORTH ST	01/30/24	16:24	00	20	4	1	01
2512 E RIO GRANDE DR	01/30/24	20:17	00	21	3	1	05
N MAIN ST & E CENTER ST	01/29/24	14:57	20	20	2	1	01
187 E 1000 NORTH ST; MACEYS SF	01/29/24	18:34	00	24	96	2	01
545 N 200 EAST ST	01/29/24	16:37	00	21	6	1	01
630 W 100 SOUTH ST	01/29/24	12:59	00	20	1	1	01
1156 N CANYON CREEK PKWY; CHILIS SF	01/29/24	13:41	00	20	1	1	01
711 E 800 NORTH ST; chip cookies	01/27/24	00:06	00	20	7	1	01
E CANYON RD & E US 6 HWY	01/27/24	12:16	00	20	2	1	01
E POWERHOUSE RD & S FAIRWAY DR	01/27/24	16:16	00	09	96	1	01
	01/26/24	13:46	00	21	4		09
899 E US 6 HWY	01/26/24	15:46	00	20	2	1	01
1082 N CANYON CREEK PKWY; BURGER KING SF	01/26/24	18:06	00	20	2	1	01
2700 N MAIN ST	01/26/24	12:03	00	20	1	3	01
500 E 1000 NORTH ST	01/25/24	19:04	00	20	1	1	01
E US 6 HWY & N CANYON CREEK PKWY	01/24/24	19:44	00	20	2	1	01
400 E 400 NORTH ST	01/22/24	15:01	20	20	2	1	01
400 N 600 EAST ST	01/22/24	14:49	00	10	1	1	01
1206 N CANYON CREEK PKWY; WALMART SF	01/21/24	15:43	00	20	1	1	09
1000 N MAIN ST	01/21/24	18:32	20	20	1	2	01
800 N 600 EAST ST	01/20/24	15:29	00	20	1	1	01
N MAIN ST & E CENTER ST	01/20/24	20:31	00	20	1	1	01
400 E 1000 NORTH ST	01/19/24	16:37	00	20	1	2	01
507 E 1000 NORTH ST; ZUPAS SF	01/19/24	19:02	00	20	4		09
S 2300 EAST ST & E CANYON RD	01/18/24	15:17	20	20	97	1	01
3549 N MAIN ST	01/18/24	15:52	00	20	2	1	01
N CANYON CREEK PKWY & E COMMERCE WAY	01/18/24	15:47	00	20	1	1	01
51 N SPANISH FORK PKWY; MMHS MAPLE MOUNTAIN HS	01/18/24	11:04	00	20	1	1	01
99 N 300 WEST ST; SFHS	01/17/24	08:12	00	21	99	1	09
S DEL MONTE RD & W ARROWHEAD TRL	01/17/24	08:36	20	20	1	3	01
300 E 300 SOUTH ST	01/17/24	07:40	20	54	96	1	05
100 E 800 NORTH ST	01/17/24	12:41	20	20	1	2	01
200 N 500 EAST ST	01/17/24	07:47	20	20	1	1	01
N MAIN ST & E CENTER ST	01/17/24	08:56	00	20	1	3	01
400 N 800 EAST ST	01/17/24	18:49	24	20	97	1	01
2300 E CANYON RD	01/17/24	19:46	20	20	1	1	01
797 E 800 NORTH ST; MAVERIK SF	01/17/24	10:35	00	20	5	1	06
34 W 1900 NORTH ST	01/17/24	07:43	00	51	96	1	05
400 N MAIN ST	01/17/24	08:37	00	20	4	1	01
E US 6 HWY & E EXPRESSWAY LN	01/17/24	17:06	00	20	2		01
51 N SPANISH FORK PKWY; MAPLE MOUNTAIN HIGH SF	01/17/24	10:01	03	21	6	1	06
1900 N MAIN ST	01/16/24	17:20	00	20	2		01
99 N 300 WEST ST; SFHS	01/16/24	12:41	00	21	8	1	09
N 700 EAST ST & E US 6 HWY	01/15/24	11:43	00	20	4	1	01
E US 6 HWY & E CENTER ST	01/15/24	16:50	20	20	2	1	01
E US 6 HWY & E EXPRESSWAY LN	01/14/24	16:50	20	20	1	2	01
1600 W 900 SOUTH ST	01/13/24	21:11	00	20	1	1	01
E COMMERCE WAY & N CANYON CREEK PKWY	01/13/24	11:08	00	20	1	4	01
700 N 300 EAST ST	01/12/24	10:19	00	20	97	2	01
200 N MAIN ST	01/12/24	11:24	00	20	1	3	01
1661 S 1100 EAST ST	01/12/24	12:11	00	60	96	2	08
580 E 800 NORTH ST	01/12/24	16:20	00	20	1		01
5688 South 650 West	01/12/24	20:01	00	65	96	1	05
1092 N CANYON CREEK PKWY; OLIVE GARDEN SF	01/11/24	03:52	00	20	1	3	01
619 N 2560 EAST ST	01/11/24	14:44	00	21	6	1	01
910 N MAIN ST; MO BETTAHS SF	01/11/24	17:31	00	20	4		01
971 S MAIN ST	01/11/24	19:52	00	64	96	1	12
200 E 300 SOUTH ST	01/10/24	20:47	20	57	96	1	05
1560 E CANYON RD	01/10/24	18:33	00	62	96	1	07
1238 E 680 NORTH ST	01/10/24	21:07	00	21	6		10
45 E 100 NORTH ST; Tabitha's Way Local Food Pantry	01/09/24	12:27	00	21	6	1	09
1000 N MAIN ST	01/09/24	16:10	00	20	1	1	01
400 S MAIN ST	01/09/24	21:51	00	41	96	1	05
614 N MAIN ST; SAGS SF	01/09/24	21:13	00	51	96	1	05

350 E 2700 NORTH ST	01/08/24	15:40 00	20	5	1	01
3075 N MAIN ST; UTAH COUNTY JAIL	01/07/24	07:34 00	67	96	1	05
400 N 600 EAST ST	01/07/24	09:03 00	20	1	1	01
2930 E 100 SOUTH ST	01/07/24	12:45 00	63	96	1	01
3412 E POWERHOUSE RD	01/07/24	16:56 00	20	2	3	05
400 N MAIN ST	01/06/24	10:36 00	20	1	2	01
786 N 800 EAST ST; JIMMY JOHNS SF	01/06/24	16:00 00	21	4		09
W ARROWHEAD TRL & S MAIN ST	01/05/24	08:07 00	20	2		01
820 E US 6 HWY	01/05/24	14:04 00	20	2	2	01
800 N 200 EAST ST	01/05/24	15:55 00	20	3	3	01
1400 E 400 NORTH ST	01/05/24	17:14 00	55	96	1	07
789 W CENTER ST	01/05/24	16:28			1	
E 800 NORTH ST & E EXPRESSWAY LN	01/04/24	13:20 20	20	1	1	01
300 W 400 NORTH ST	01/04/24	15:12 24	20	1	1	01
795 E 800 NORTH ST; IN N OUT BURGER SF	01/04/24	17:56 00	21	1	1	09
1741 E 1600 NORTH ST	01/04/24	18:17 00	21	6	1	01
1761 E 100 SOUTH ST	01/04/24	15:31 00	67	96	1	05
1206 N CANYON CREEK PKWY; WALMART SF	01/03/24	12:38 00	20	2		09
1178 S 1560 EAST ST	01/02/24	08:32 00	21	6	1	01

Appendix C: References

1. Spanish Fork City. Wednesday, February 7, 2024, Amended Planning Commission. Spanish Fork City Planning Commissioners Todd Mitchell, John Mendenhall, Shauna Warnick, et. al. https://www.utah.gov/pmn/files/1081557.pdf