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## Repairing the Relationship Between Trains and Traffic in Columbia, South Carolina

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## **Thesis Summary**

Anyone who has lived in Columbia for a while has most likely waited on a train. Trains obstruct the flow of traffic on and around the Assembly Street corridor on a daily basis, but there is no readily available information for the public as to where these trains are coming from, where they are going, or how long they will obstruct the roadways. As the city of Columbia continues to grow, it is important to look to the past to combat future train and automobile traffic problems.

In the early 1970s the City of Columbia acknowledged that the trains were impeding efficient city growth and sustenance. By 1981, a plan was proposed to consolidate the many separate train lines that ran through the portion of the city known today as The Vista. This plan proposed solutions that would eliminate the at-grade crossings from four key portions of the city, which were two sections of the Assembly Street corridor, The Vista, and the area around Elmwood Avenue. Two of these sections were completed: The Vista and the Elwood Loop. The money for the project ran out before the Assembly Street sections could be started, and the tracks there have been left as they are for the past three decades.

In 2009 a study was published that took a fresh look at the feasibility of completing the Assembly Street portion of the railroad consolidation and elimination project. The study proposed multiple solutions to the problem area, projecting the cost to be nearly \$170 million to complete. Such astronomical costs could not be met at the time, and the feasibility study was abandoned.

In early 2017, the City of Columbia and the South Carolina Department of Transportation partnered up to fund an update to the 2009 feasibility study. This update

will take a few years to complete, and there are hopes that the funding will pull through this time around to finally complete the project.

Ultimately, there is no quick fix to this issue. Solutions have been sought for nearly half a century now, but without proper funding, these solutions cannot be implemented. It is important for pedestrians and drivers to understand how deeply rooted South Carolina's economy is in the service of the trains. The state depends on the trains to deliver materials that sustain the manufacturing industry in South Carolina. However, the inefficiency that results for both the trains and the city's growth from the current condition of the railroads is a burden to all. Educating the public about the history and the current problems surrounding the railroads in Columbia and throughout the state of South Carolina can hopefully spur the necessary progress that will finally complete the decades-old railroad consolidation and elimination project.

## Introduction

I was sitting in my car on Whaley Street early in the Spring 2016 semester, waiting on a train. It was blocking my way to the parking garage, and a few more minutes of waiting would make me late for class. I had to make a decision: try to find a way around, or wait it out. To make an informed decision, I went to my phone. I tried multiple Google searches to find a train schedule, hoping there might be information about when the train got there, how long it might be there, how many cars were on it, or anything else that could help me decide if it was worth the five extra minutes to drive around. There was absolutely no information available. Frustrated, I tossed my phone into the passenger seat and decided to find a way around the train.

This experience stuck with me. Shortly after, when I had more time on my hands and I was not driving, I tried searching for information again. The only schedule I could find was for Amtrak, which has never been a problem. I started asking around, and I found that others had gone through experiences like mine, but no one ever thought to look any further than a fruitless Google search.

How could it be that there was a very real issue in Columbia— trains blocking major intersections multiple times every day—with zero information readily available to the public? This is something that affects residents and visitors alike. It is a major cause of delays and unsafe behaviors, road rage and impatient driving. And yet, nothing comes up, or at least not without some serious digging. I realized this would be my research project. This is my contribution to my peers, my university, my city, and my community. It is time people know what is going on with our trains.

My intention with this paper is to inform readers of the history and complexity of the issues with the trains and other traffic in Columbia, South Carolina. While it may not offer specific solutions to the problems, it does examine solutions that have been proposed and reasons why these solutions have not been pursued. The reader should take away a deeper understanding of why things are in their current state in relation to the trains and the automobile traffic in Columbia. Ultimately this information can keep the public informed so that better decisions can be made in the future.

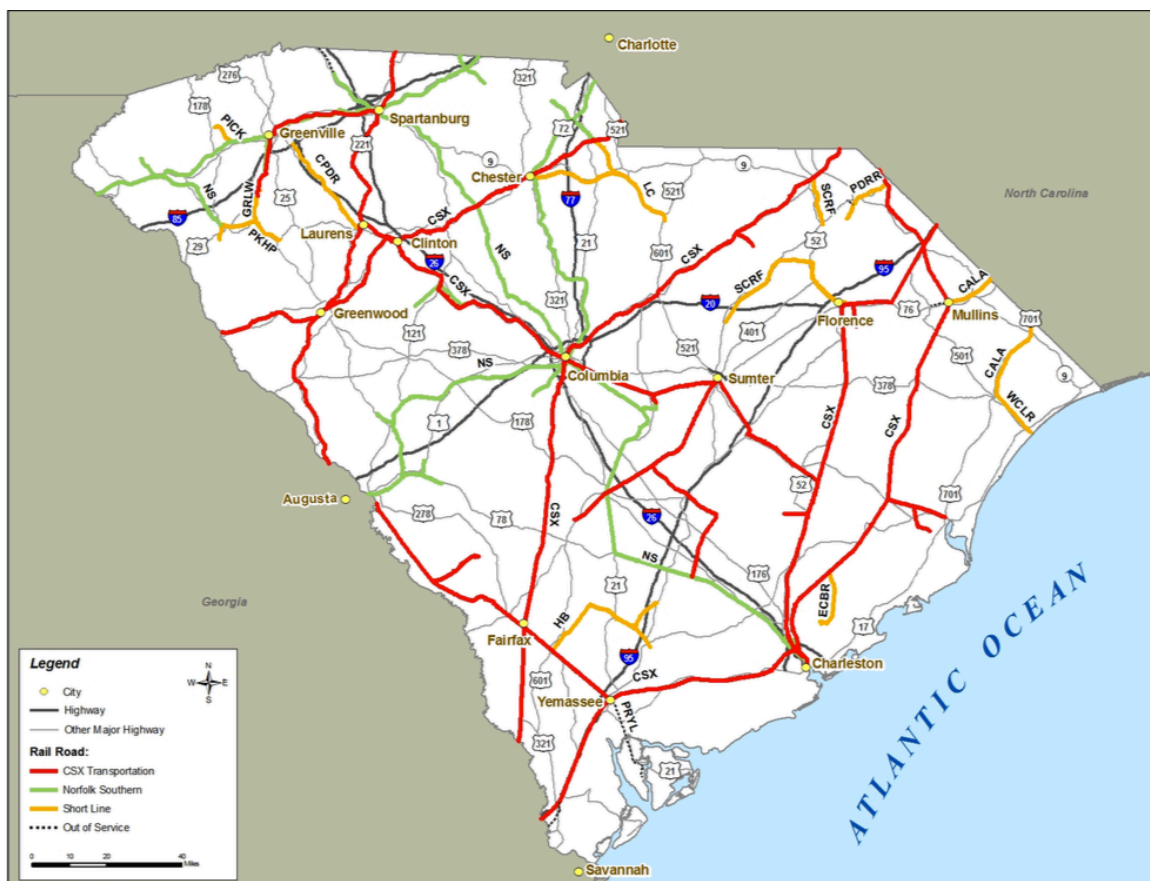
### **Early Research: Some Foundational Information**

To understand the train system in Columbia, it is important to have some foundational knowledge in place. First of all, the source of all train traffic that meets with automobile traffic comes from two train companies: CSX Transportation and Norfolk Southern (*SC State Rail Plan 7*). There is an Amtrak station in Columbia as well, which runs its passenger trains on Norfolk Southern tracks (NSCorp.com), but these tracks pass below the city and do not interfere with automobile and pedestrian traffic.

CSX has the larger presence in South Carolina. It had about 1000 employees in South Carolina in 2015, and it paid over \$100 million in compensation to current and former employees in that year (CSX.com). In South Carolina alone, the company has 1,750 public and private grade crossings, which are where train tracks intersect with roads. It is important to note that CSX operates in 23 states including South Carolina, as well as parts of Canada (CSX.com). This means that it is a multi-state corporation, which impacts how it interacts with localized issues. Special treatment received in one state will be expected in other states (Dillard).

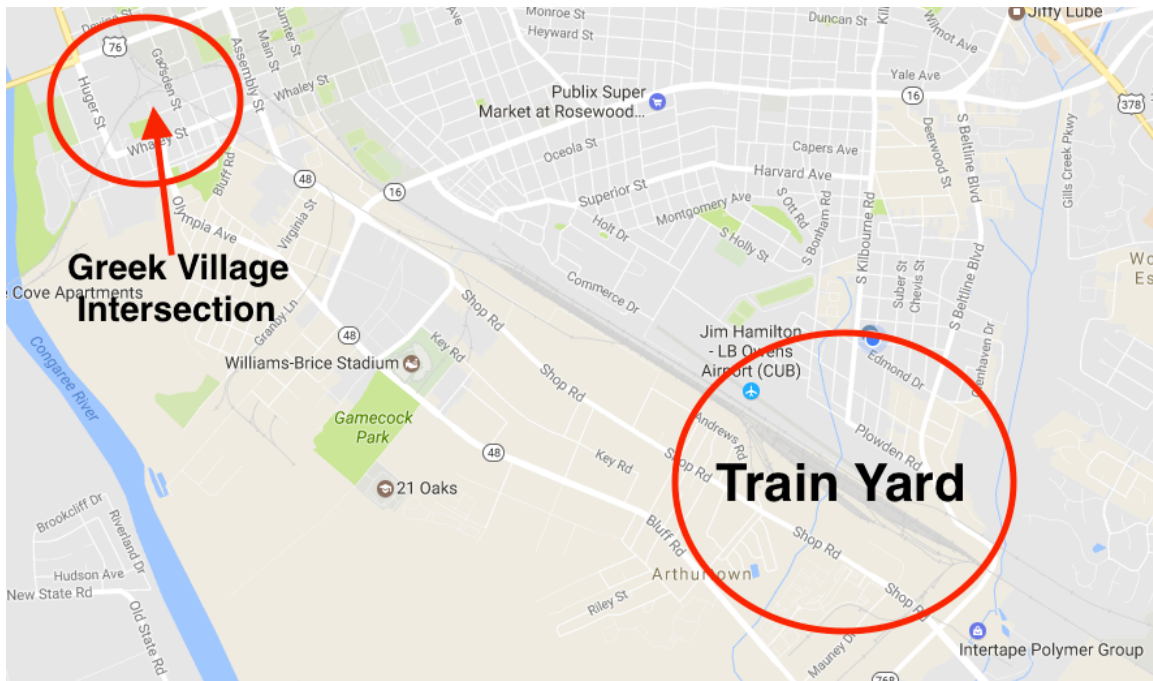
Norfolk Southern, or NS, has a smaller presence in South Carolina but is still a major contributor to train traffic. It has 720 current employees in South Carolina, and it allows Amtrak to operate two regularly scheduled passenger trains on its tracks that run through Columbia. It has 1,170 public and private grade crossings in South Carolina, and as a whole it operates in 22 states (NSCorp.com).

The state of South Carolina has twelve other operational freight lines as well, but these do not run through Columbia. They are referred to as “short lines” (*SC State Rail Plan* 8). These twelve lines are highlighted in the map below in gold. CSX is highlighted in red, revealing its dominating presence across the state, and NS is highlighted in green.



According to the Association of S.C. Railroads, one train from any of the fourteen lines in our state can carry as much freight as several hundred trucks. The amount of freight that originated, passed through, and terminated in South Carolina in 2009 through the work of freight trains would be equal to the work of 3.8 million 18-wheel trucks (“Statistics”).

CSX and NS share a train yard off of Shop Road, down the road from Williams Brice Stadium. The majority of train traffic crossing Assembly Street will pass through the train yard. Major problems start happening behind USC’s Greek Village, where NS tracks and CSX tracks intersect. The companies must communicate with each other to make sure trains do not cross each other on these intersecting tracks, which often leads to stopped trains on Assembly Street as they wait for another train to pass (Dillard).





### **Moving Forward: Finding a Schedule**

My original intent with this project was to create an app that would allow people to have access to the train schedule. The app would include a map of the city that would highlight the blocked intersections, suggest routes around the blocked areas, and estimate wait times until the road would clear. My hope was to improve the app after graduation, and eventually partner with Apple or Google maps so that this information would be integrated into these already-established applications, instead of forcing people to open a separate app. That way, if someone were to use Google or Apple maps on his or her drive, a train warning would flash up and an alternative route would be suggested without interrupting the navigation services.

To create such an application, I would need access to a train schedule. I spent the summer of 2016 researching everything I could about the train companies in Columbia, but all of this foundational knowledge about the trains did little to help actually solve the problem or find a schedule. I needed to actually speak with some people who had authority. I reached out John Dillard, the Resident Vice-President of State Government Affairs for CSX Transportation. I sat down with Mr. Dillard in mid-September to get some answers.

Mr. Dillard quickly shut down any hope for finding a train schedule. There is no precise schedule for the trains. Each morning, workers receive a rundown of the jobs to be accomplished, conduct security checks similar to those done at airports (check the cargo, the train engine, brakes, car connections, etc.), and when everything is ready to go, they send the train out. It is a rolling schedule based on when jobs are completed.

When I asked about releasing the times that trains actually do leave the train yard, along with the amount of cars attached, Mr. Dillard said that such information is withheld for security purposes. Ever since the September 11 attacks on the Twin Towers, both CSXT and Norfolk Southern decided that it would be safer for everyone if people did not know ahead of time what the trains were transporting or where they were traveling. The companies that go through Columbia are both multi-state operations, meaning that materials could start their journey at a port in one state such as Florida, travel up through Columbia and many other states throughout the southeast, oftentimes making it to Washington D.C. The trains haul large amounts of hazardous materials on a regular basis, and it would be disastrous if someone were to target a train in an act of terrorism.

The bottom line: a train schedule is not and will not be the answer to the train and traffic issues in Columbia. A different solution must be found.

### **Seeking Alternatives: Do we need trains?**

This discouraging interview with Mr. Dillard sent me back to the drawing board with this project. The train companies would not release any information about their trains, so the public is left with no way to make informed decisions when stuck waiting at a railway crossing. This left me wondering, what makes the trains so special to have such a powerful presence in our community? Why are we left to their mercy, waiting for them to move with no power to make any difference? Why must tax-paying citizens defer to the trains when the trains seem to have no care or concern for them? The answers lie in the train companies' history and economic impact.

The South Carolina State Rail Plan of 2008 is the most recent rail plan update, and it contains a massive amount of information about railroad contributions to the state's economy. CSXT and NS trains are used primarily to transport goods and materials. The rail plan breaks down what the companies are shipping, and "the traffic statistics are dominated by one commodity group, coal, accounting for 34 percent of total originating and terminating tonnage" (*SC State Rail Plan* 19). Other materials include lumber or wood products, chemicals, petroleum or coal products, and hazardous materials. In 2006, the total value of all goods shipped by train through South Carolina was \$26.7 billion dollars (*SC State Rail Plan* 43). This directly and indirectly provided 7,000 jobs in the state of South Carolina, and it paid about \$171 million total in the form of income (*SC State Rail Plan* 50).

According to the 2008 State Rail Plan, many shops, businesses, and shippers depend on rail service to provide their own goods and services. If railroad services were no longer provided, shipment of necessary goods would shift to truck, air, or water transportation. This could put a strain on the demand for alternative modes of transportation, raising ground transportation costs, handling costs, and overall costs to industry across the state. Ultimately, "the long-term result would be a migration of industry away from South Carolina to other locations with better rail accessibility" (*SC State Rail Plan* 51). In 2006 a total of 332,700 jobs in South Carolina could attribute some reliance on freight via rail. The 2008 State Rail Plan closed by stating that rail service is essential to South Carolina's economy. Although the train companies only provide 2,000 jobs directly, they touch multiple industries across the state and attract businesses that would otherwise go elsewhere. Rail traffic is significantly cheaper than

highway traffic or air transportation, and the trains in South Carolina help the state to stay competitive in a global economy (*SC State Rail Plan* 56).

A 2009 feasibility study seeking solutions to the growing traffic problem on Assembly Street opened by stating that using other modes of transportation to ship the millions of tons of cargo that the trains carry would be unreasonable (“Feasibility Study” 1). The trains are too vital to manufacturing and other industries in the state, and these industries form a substantial portion of South Carolina’s economy. This being proven, it is necessary to accept that the trains will remain a part of the state’s economy. Therefore, if no schedule can be produced, if no information about train movement may be provided to the public, and if trains are not an obsolete technology, then another solution must be found for the growing tensions between automobile traffic and train traffic in Columbia.

### **Learning from History: How The Vista Paved the Way**

During my interview with John Dillard, he mentioned a project dating back to the 1980s that moved the train tracks out of the section of Columbia known today as The Vista. From his office overlooking the downtown area, Mr. Dillard was able to point out his window and show me where the tracks used to run, and where they run today. This brief part of our meeting was monumental for me because it revealed the solution Columbia needs. If the public and the train companies cannot communicate, and the economy relies too heavily on the trains to stop using them, then the trains and the public must be able to operate separately from each other.

Turns out, the changes Mr. Dillard pointed out have a history dating back to 1969, when the city of Columbia first decided to take action (“Railroad Changes”). In

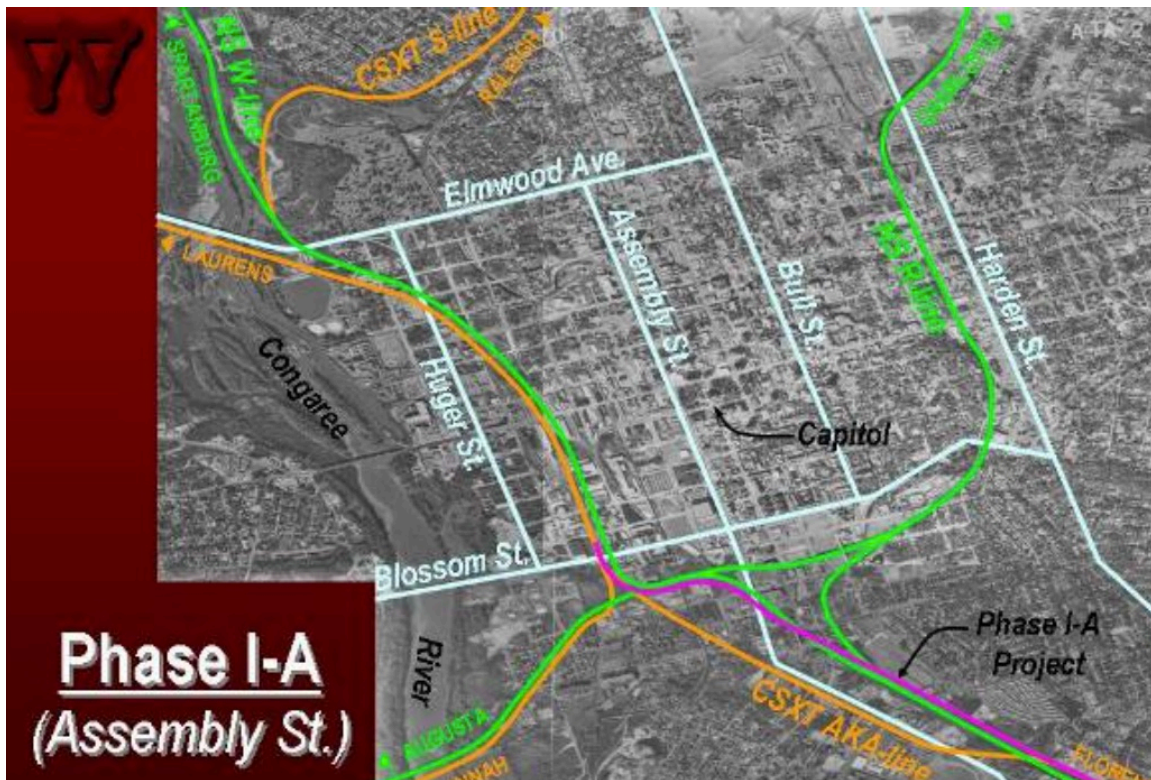
December of 1969, the *Central City Columbia, S.C. Master Plan* stated that the railroad tracks and deteriorating warehouse had a “blighting influence” on the city (*Elimination Project* vii). In 1976 the “Columbia Area Railroad Relocation and/or Consolidation Study” was prepared, and a year later, a grant was issued to begin the study (vii). In 1981, the study was completed and published, with six alternatives proposed to consolidate the three railroads that ran through the city at the time.

The 1981 Consolidation Study broke down the problem areas into four phases. At the time, these phases were titled Phase 1-A: Southeast corridor; Phase 1-B: Southwest corridor; Phase 1-C: Central corridor; and Phase 1-D: Elmwood Loop (6). Today, the Southeast and Southwest corridors correspond with the tracks on Assembly Street—these phases were never completed. The Central corridor corresponds with what is now known as The Vista, and the Elmwood Loop corresponds with everything north of Elmwood Avenue; —these two portions were completed and are shown in the image below. The 1981 study stated that the four phases did not have to be completed in order or at the same time, which is why only half of the project was completed (*Elimination Project* 17).



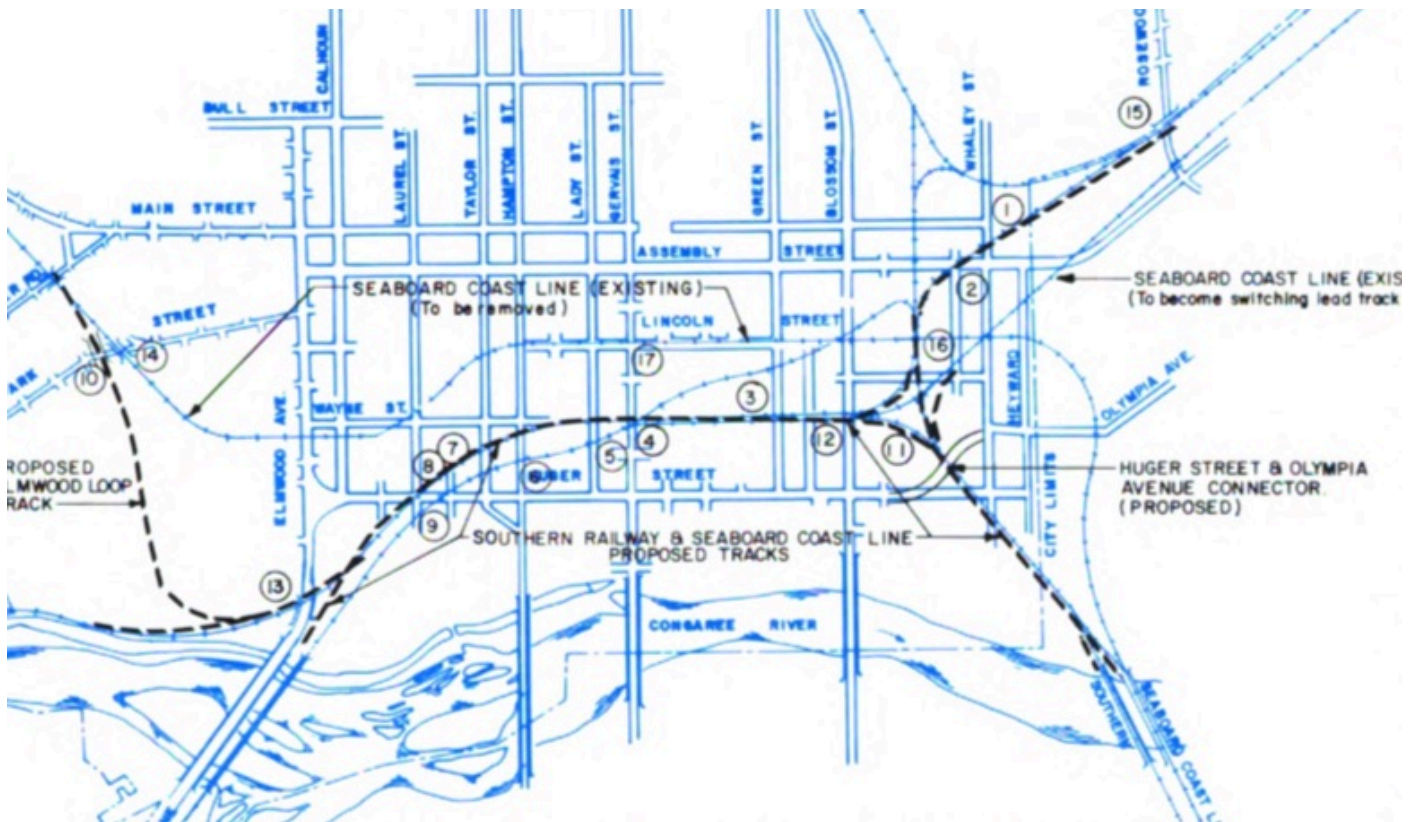
The image below is taken from the 2009 feasibility study and shows where the train tracks currently run (“Feasibility Study” 3). To the north, the orange line representing the CSXT line branches off from the railroad it shares with NS, highlighted in green. Originally, the orange line did not have the sharp curve that connects it to the green line. Instead, it came down across Elmwood Street and on the other side of Huger Street, running right through what is known today as The Vista. The project moved the train tracks away from The Vista area and built the roads over the tracks via a bridge. Today the tracks run parallel to Huger Street with automobile traffic crossing over on Blossom Street, Gervais Street, Lady Street, Hampton Street, and Taylor Street (Google

Maps). The entirety of the railroad tracks spanning from Blossom Street to Elmwood Avenue have only one at-grade crossing—which sees very little automobile traffic—and many people do not even realize they are driving over train tracks in this section of town. According to the 2009 feasibility study, this project was “one of the city’s most successful revitalization efforts... which reconnected the area by opening up Gervais Street,” (3).



The original plans from 1981 are displayed below. The black lines represent where the tracks were to be moved, which is accurate to today.





The blue tick-marked lines represent where the tracks ran in 1981. The CSXT line (known in 1981 as the Seaboard Coast Line) ran right through the middle of the Vista along Lincoln Street, where today popular restaurants such as Blue Marlin, Longhorn Steakhouse, Carolina Strip Club, and Starbucks all have made their homes.

If the massive effort to revitalize The Vista was completed nearly four decades ago, whatever happened to the rest of the project? The answer lies within current attempts to finish the project.

### **Today: It's a Money Matter**

In early February 2017, a couple local news sources reported that money was being put towards finding a solution for the Assembly Street train problems. There was



no mention of the decades of history behind this move. The Free Times reported, “Columbia City Council has approved funding to take the first steps toward removing or redesigning the railroad tracks that cross South Assembly Street,” (Trainor), and WIS-TV followed up with their own report, stating, “the ball is finally rolling on a plan that would save plenty of headaches for Columbia commuters,” (Turnage). Both articles said that the City of Columbia was matching funds with the South Carolina Department of Transportation to fund a feasibility study to assess options to remove the tracks from Assembly Street. Each put forward about half a million dollars to fund the project (Turnage).

What is concerning is that further investigation quickly revealed that this project is simply an update to a study published in 2009. Four options were presented in that study to remove the tracks, and it took about two years to assess every angle of these options, from environmental impact to cost to public opinion. City Council representative Missy Gentry spoke with me further on the issue, and she admitted that this most recent study is more of a dusting-off of the old study, since properties have changed hands and developments over the past decade have changed portions of the areas included in the original proposed plans (Gentry). Mrs. Gentry said the 2009 study revealed that the total cost to remove the at-grade crossings on Assembly Street and the surrounding areas would cost up to \$169 million dollars, a sum that the city could hardly pay on its own, and that few other funding sources were willing to contribute to (Gentry). The study suggested that additional funding be supplied by federal railway programs; the State Infrastructure Bank; grants for rail line relocation projects; city, county, and state funds; and private funding such as from the University of South Carolina or other colleges and

universities, and surrounding developments (“Feasibility Study” 16). However, in the years that followed the publication of the 2009 feasibility study, the necessary funding did not come through, and the project fell by the wayside.

Mrs. Gentry expressed concern that these problems will arise again with the updated feasibility study. It will take a couple of years for the study to be completed, but this may not be enough time for the City of Columbia to pull together all of the grants and tax dollars necessary to move forward.

The biggest contributor towards the funding for this project would be the South Carolina Transportation Infrastructure Bank (TIB), which is a federally funded bank created in 1997 for the purpose of aiding major highway and transportation projects that are deemed necessary for public purposes (SCTIB.gov). The TIB has been under significant stress in the past few years due to the deteriorating conditions of South Carolina’s roads. This has forced it to focus all of its efforts on repairing the state’s highways, roads, and bridges, and put other projects, such as Columbia’s railroad corridor project, by the wayside. In addition, the TIB has a history of carrying significant debt. In the 2014-2015 fiscal year, the TIB revenues were \$220 million while its expenditures were \$282.1 million. In June 2015, the bank owed its bondholders nearly \$2 billion for debt incurred to finance its projects (SCTIB.gov). Due to this accumulation of issues, Columbia will most likely not see a significant amount of funding from the SCTIB, and it will have to look for more funding from SCDOT and federally funded grants.

**Conclusion:**

Early in the Spring 2017 semester, I found myself again stopped at the same spot that sent me down this research path. The train was stopped, blocking my way to the parking garage. If I waited, I faced the likelihood of being late for class. If I drove around, I faced the possibility that the train would move out of the way before I got around, thus wasting more time than waiting would. I felt a twinge of frustration, but it was good to know the history and complexity of the issue sitting right in front of me. That train was a representation of a much larger issue than most people may realize. It was the embodiment of our reliance on the efficiency and power of trains, mixed with the undeniable growing pains every part of Columbia faces. I realized that Columbia is much like a child who is growing quickly and no longer fits in his clothes, but cannot afford to keep buying clothes that fit. These trains clothe our city and state. They help sustain us. Our city and state have simply grown faster than they can financially handle.

My frustration was somewhat relieved as I was reminded of why things are in this current state. The train companies have chosen to look after their own growth and safety, which is important for efficient service on their own end. The state's economy relies heavily on the railways doing their job well, and a certain amount of deference must be given. While the trains may inconvenience drivers and pedestrians on the road, no real harm is caused by the crossings.

With this in mind, it makes sense that any changes made to the railroad crossings should be the responsibility of the people, not the train companies. It is valid to feel inconvenienced, and steps are slowly being taken, but we have to keep in mind how important those trains are. We cannot "just move them." If our economy is not healthy

enough to make the best solutions become a reality, then that is the issue that must be tackled first. Legislation such as increasing the gas tax, which is being debated in South Carolina's State House during this 2017 session, must be passed to start the long journey of fixing our roads, and then fixing other infrastructure issues. Participation in local and state government will relay the message to our representatives that this is the solution the people desire, if in fact it is. Citizens can attend city and county council meetings, send letters to their state representatives, and vote for measures that will move improvements forward. There is no immediate solution or change, but the issue must remain in the forefront of authorities' minds to ensure that solutions will continue to be sought in the future. It is against the spirit of humanity and progress to leave things in their current inefficient state. My hope is that the city of Columbia and the state of South Carolina will continue to grow in a healthy manner, and that one day this project that was started decades ago can finally be completed.

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