Durham-Orange light-rail is dead. Could funds raised be used for more buses?

The Herald-Sun By Dawn Baumgartner Vaughan and Tammy Grubb March 28, 2019

DURHAM – While some Triangle residents mourned the death of the Durham-Orange light-rail project Thursday, others were busy suggesting what to do with the billions of dollars that would have paid for it.

The 18-mile light-rail line succumbed after decades of planning and over \$130 million spent to a variety of challenges. Duke University's refusal to stay the course may have been the final straw, but there also were growing costs, state deadlines and railroad companies' reluctance to sign a cooperative agreement and lease land for the rail line.

The GoTriangle Board of Trustees vote to stop the project Wednesday was a loss for regional transit and for the jobs, economic development and affordable housing that light rail promised, many local leaders said. Orange County Commissioner Mark Marcoplos said he and other GoTriangle board members sought a solution until the last minute.

But in the end, there were too many challenges to overcome by the state's Nov. 30 deadline to have the project funding in place. The future of regional transit is now back in the hands of the transit partners: the two counties' boards of commissioners and the Durham-Chapel Hill-Carrboro regional planning group (DCHCMPO).

Durham also is left to consider how to salvage years of planning for affordable housing, jobs and economic development, all tied to light rail.

IS THE DECISION FINAL?

The decision to end the light-rail project becomes official when Orange and Durham counties and the DCHCMPO board vote to end the project. The Orange County commissioners could vote Tuesday; the Durham County commissioners have not set a date yet.

HOW SOON COULD WE GET SOMETHING ELSE?

The partners will draft changes to the counties' transit plans, which also include new bus services, a Wake-Durham commuter rail line, and an Amtrak station in Hillsborough. It could take a year or more to draft new plans, submit them for public comment and get them approved.

"We're not going to come up with a new plan overnight," Orange County Commissioners Chair Penny Rich said Thursday. "That's a pipe dream."

It also could take years to put the new plans into action, even if it's just more buses and routes for GoDurham, GoTriangle, Chapel Hill Transit and Orange Public Transportation.

Regional bus-rapid transit service is more complicated, especially if federal tax dollars help pay for it. A small project, like Chapel Hill's planned bus-rapid transit route, can take two or three years to secure a Federal Transit Administration grant and at least two years to get state funding.

See the Orange County transit plan at bit.ly/2HJAZHF. See the Durham County transit plan at bit.ly/2HXz8OH.

HOW MUCH MONEY? HOW CAN WE SPEND IT?

GoTriangle amasses the money to pay for Orange and Durham transit plans through a half-cent sales tax, and car rental and registration fees.

Here's how much each county collected through June 2018. (Much of this money has been spent.) This year's financial report won't be available until mid-summer:

Orange County

- Total 2012-18: \$43.6 million (includes sales tax, fees and grants)
- 2018 sales tax: \$7.3 million
- 2018 car registration fees: \$771,820
- 2018 car rental fees: \$612,779

Durham County

- Total 2012-18: \$170.8 million (includes sales tax, fees and grants)
- 2018 sales tax:\$29.9 million
- 2018 car registration fees: \$2.3 million
- 2018 car rental fees: \$1.2 million

State law requires the counties to spend money collected through the transit sales tax on building, operating and maintaining public transportation systems.

The money cannot be used for schools, law enforcement or any other county services.

CAN LIGHT-RAIL MONEY GO TO BUSES?

The money that would have gone to light rail could be a boon for GoDurham and Chapel Hill Transit, which face budget shortfalls and potential cuts. The problem has been growing for several years because of deep cuts to state funding and the federal grants that help buy new buses. The cost of providing transit services also has been growing, officials have said.

In December, transportation leaders told the Durham City Council that GoDurham may need to end some bus routes. The system's five-year plan includes an \$875,000 projected shortfall, Harmon Crutchfield, assistant director of the city's transportation department, told the council. GoDurham also wants to purchase 40-foot electric buses, which cost around \$700,000 per bus.

In Chapel Hill, Chapel Hill Transit is looking to fill a nearly \$700,000 hole in next year's budget. The town used onetime grant money to fill the gap this year. Another challenge for Chapel Hill and its partners UNC and Carrboro is how to make the fare-free system, which has had budget problems for several years, financially sustainable.

Bill Judge, Durham's interim transportation director, said light rail funds, administered through the county's transit plan, cannot be used for operating shortfalls but could help with other needs.

"The funding source — local sales tax — requires the funds to be spent on new or expanded services, so these funds cannot be used to cover the proposed GoDurham budget shortfall," he said by email.

Orange County amended its plan in 2012 so that its transit agencies would have more flexibility in using the additional money to meet unexpected budget increases, such as if the price of fuel were to skyrocket.

WHAT ABOUT BUS SHELTERS?

Bus riders in Chapel Hill and Durham have been asking for more bus-stop shelters for years. Many of those stops now are little more than a sign on the side of the road.

The average cost for a bus shelter is about \$35,000, with lighting, sidewalk improvements and a concrete pad, Judge said. The transit sales tax is funding some bus stop improvements.

Durham also is preparing a list of "Participatory Budgeting" projects that all city residents age 13 and older will vote on in May as part of a new \$2.4 million program. More than 500 ideas were submitted, with "streets and sidewalks" receiving the most submissions, at 36 percent.

"It seems like basic decency to, at a minimum, provide a bench, trashcan, shelter and sidewalk for the community that rides the bus in Durham," resident Bridgette Thurston wrote.

HOW DOES THIS AFFECT AFFORDABLE HOUSING?

It's not clear yet.

The Durham City Council plans to put a \$95 million affordable housing bond referendum on the November ballot. Many of the projects it would support are near planned light rail stops.

One downtown project is already underway on Willard Street next to the Durham Station. The Durham Housing Authority's renovation of J.J. Henderson public housing nearby is also underway.

Downtown light-rail stops would also have been built at Blackwell and Dillard street, near three sites — Oldham Towers, Liberty Street Apartments and Forest Hill Heights — the authority wants to turn into mixed-use projects with affordable and market-rate apartments.

Durham County, meanwhile, has already voted to redevelop two parking lots on East Main Street into parking garages with mixed-use, mixed-income apartments. Those two blocks are within walking distance of what would have been the Dillard Street light-rail stop.

Chapel Hill planned to seek affordable housing near its light-rail stations and also has a consultant's plan for economic development of those stations in hand, but little work has been done to put those plans into action.

2 cities put light rail near hospitals, like the plan that worries Duke. Here's what happened.

The Herald-Sun By Tammy Grubb March 25, 2019

DURHAM -- The Durham-Orange light-rail project could come to a head this week as a deadline nears for seeking \$1.24 billion from the Federal Transit Administration.

The 18-mile light-rail system would connect UNC Hospitals in Chapel Hill with Duke and N.C. Central universities in Durham, and points in between. The state has set a deadline of April 30 for the local money to be in place, and Nov. 30 for the federal grant.

With a grant, construction could start in 2020. But rising costs and Duke University's decision to stop working on the project have put millions of dollars and a decade of planning at risk. Duke President Vincent Price and others said the decision was based on multiple concerns, from patient safety and emergency access, to vibration and electromagnetic interference.

Most of those concerns have been or could be resolved, GoTriangle officials have said. The tale of two cities that already have light rail serving their medical and university centers show there is still room for caution.

The GoTriangle Board of Trustees will consider the next steps for the now-\$2.7 billion project at its meeting Wednesday,

LIGHT RAIL AND EMI

Light-rail trains are powered by an electrical current running from overhead catenary wires into the engine and returning through the rails to a traction power substation. The train's movement also causes temporary changes in the earth's geomagnetic field.

The processes combine to create electromagnetic interference, or EMI, which in large amounts can cause problems for sensitive equipment, like MRI and diagnostic scanners.

Veteran EMI consultant Charles Edelson said electromagnetic interference problems are rare, and there's usually a solution. Edelson was part of a team in the 1980s that developed the federal transportation system for identifying EMI causes, symptoms and solutions.

Analysis only goes so far, he said in a phone interview, while listening to details of the Durham-Orange project and EMI reports.

"We won't know there's a problem until they get the rail line in and start doing some testing," Edelson said.

LOCATION, MONITORING KEY

Many medical centers and hospitals are served by light rail, but a review of their locations using Google Earth showed that light rail in most cities runs 200 feet or more from medical and research buildings. Some Duke buildings are just 150 feet from the light-rail route.

A longer distance lets more of the EMI dissipate before reaching sensitive equipment.

Two light-rail systems with tight medical and research corridors are the Red Line through Texas Medical Center in Houston and the Green Line at the University of Minnesota Medical Center in Minneapolis. Both have health and science buildings within 150 feet of the trains.

Trevor Roy, spokesman for Minneapolis-St. Paul's Metro Transit, said a decade of planning for Minneapolis's Green Line faced "significant hurdles," including a lawsuit, as reported by MPR News. The line opened in 2014, about 100 feet from two science buildings and a block from the medical center.

The trains were expected to affect roughly 100 labs and more than 150 pieces of equipment, said Leslie Krueger, University of Minnesota assistant vice president for planning, spaces and real estate.

The university moved its nuclear magnetic resonance equipment, and the regional government group building the project made changes to mitigate EMI and vibrations. Construction crews were required to meet testing and performance standards, and vibration and EMI issues have been monitored twice a year since the line opened, Krueger said.

In 2015, water and debris seeped into electrical boxes embedded in the rails, causing EMI spikes near the medical buildings, Krueger said. No equipment was damaged, she said, and a rubber membrane was installed to correct the problem.

"We were really motivated to make this work," Krueger said. "We really saw the value of having light rail through campus."

ELECTRICAL LEAKS AND PIPES

The Houston Chronicle reported that Houston's first light-rail line sparked a funding fight with congressional leaders, divisive debates and lawsuits. The 7.5-mile line through Texas Medical Center opened in time for the 2004 Super Bowl. It now serves more than 53,000 riders every weekday, Metropolitan Transit Authority of Harris County, known as METRO, reports.

"There were people who thought we would have issues, because we were running by the medical center, and the line put out electromagnetics that interfere," EMI consultant Edelson said. "As I recall, we didn't find any interference."

Roughly a year after the launch, stray electrical current was detected leaking from the rails into the ground. As the stray current finds its way back to the power station, it moves toward conductive materials in the earth, including iron and steel water pipes. The electrons carried in the electrical current can corrode those pipes, leading over time to cracks and breaks.

The medical center fought the Red Line, but it lost, said Richard Wainerdi, president emeritus of Texas Medical Center. There also were consultant problems and traffic issues, he said, and the 2007 lawsuit Texas Medical Center filed against METRO and the project's construction manager Siemens Transportation Systems Inc.

The medical center's consultant found a risk for damage from stray current, but Siemens claimed immunity from any lawsuits. The medical center and METRO agreed to testing and liability requirements in 2009, and Siemens reimbursed METRO for over a million dollars in testing, repairs and consultants. METRO spokeswoman Laura Whitley said the agency still tests for stray current.

"Those tests have never detected leakage," Whitley said in an email. "Additionally, stray current leakage has never been verified."

TRAFFIC, BAD DECISIONS

Traffic on busy Fannin Street is another issue for Texas Medical Center. In 2016-17, 11 crashes were reported at one especially dangerous intersection. Most involved drivers who ran red lights or turned left in front of a train, officials said.

Early crash statistics for Fannin Street didn't include the pedestrians struck by trains, Wainerdi added.

"You've got to be very careful where they put it," he said. "Nowhere near where the emergency rooms are or where it will interfere with traffic."

Duke "is going a very good job" looking out for its medical center and patients, Wainerdi said in a phone conversation Monday. He scoffed at the idea that Duke should have brought up electromagnetic interference years earlier, noting Duke officials are experts in medicine not railroads.

He also applauded GoTriangle's plan to elevate the Erwin Road light-rail tracks — a change that added \$90 million to the project's cost. That would have been the perfect solution to the traffic problems and, potentially, the stray current in Houston, he said.

"As long as they do their homework on the medical equipment, and things are shielded and grounded properly, that should take care of it," Edelson said.

Wainerdi also advised keeping an eye on transit agency attempts to save money on the project and the consultants hired for the jobs.

"The issues that we brought up have continued to be a problem," he said.

EMI REPORTS AT ODDS

GoTriangle has offered documents showing Duke didn't raise EMI concerns until November 2017 — nearly two years after the route was set. Michael Schoenfeld, Duke's vice president of public affairs and government relations, raised questions about GoTriangle's responsibility to build and operate "a rail line safely and without creating danger to public health."

"In 2016, GoTriangle issued an environmental impact statement describing a plan to route a catenary electric light rail 150 feet from a hospital and research complex. It made no mention of EMI impacts on sensitive equipment, which means they were either unaware of this well-known issue, or chose not to disclose it," Schoenfeld said in an email.

A draft EMI report from GoTriangle consultant LTK evaluated 37 sites within 500 feet of the light-rail route. It noted magnetic fields would have the biggest effect on sensitive equipment within 200 feet of the trains, it said, offering some possible solutions.

The evaluation also found a "moderate" likelihood of EMI effects at four Duke facilities, including the hospital, and a "low" likelihood at Durham VA Medical Center. It said additional information about potentially affected equipment, and more work, is needed.

Duke consultant Vitatech reviewed the findings and also recommended more analysis but disagreed with LTK's summary of how EMI could affect sensitive equipment. Vitatech's review said EMI levels could be several times higher at multiple locations along Erwin Road.

"The preliminary analysis conducted by our independent expert indicates that, in fact, the impact of EMI on medical devices and thus the risk to patient safety appears to be even greater than had been initially understood from earlier data provided by GoTriangle's consultants," Schoenfeld said.

Neither company returned calls seeking more information.

Those bright green Lime bikes have disappeared from Durham and Wake Forest

The Herald-Sun By Richard Stradling March 25, 2019

WAKE FOREST – Lime, the California company whose bright green bicycles and scooters became a common sight in the Triangle, has ended its bikeshare program in Wake Forest.

The company told the town early this month that it is moving away from bicycles in favor of electric scooters, according to Suzette Morales, the town's transportation planning manager. Lime, which was known as LimeBike until last May, has pulled its bikes out of other cities as well, including Durham and Hartford, Conn.

Requests for comment from Lime were not returned Monday.

The company had expressed an interest in bringing scooters to Wake Forest as part of its bikeshare program, Morales said. The town didn't have a policy on scooters, so "it was not a decision that could have been made at that time," she wrote in an email.

Now the town has a scooter policy, but it wouldn't have helped Lime. Last week, citing safety concerns, town commissioners voted to ban motorized scooters from "sidewalks, greenways, parks, city streets and all other public areas" in town, according to a press release Monday.

Wake Forest approached Lime about bringing its bikes to town because it wanted to provide residents with low-cost transportation with little or no cost to the town, Morales said last year. The company placed about 200 of its bicycles downtown and in other key spots around town in June.

Morales said Wake Forest may consider a partnership with a dock-based bikeshare company in the future, but nothing has been decided. Dock-based systems, such as Citrix Cycle in Raleigh, also charge for rides, but the bikes must be rented and returned from docking stations, rather than left where the previous ride ended.

Lime made its debut in the Triangle in the summer of 2017, through an agreement with N.C. State University to set 300 pedal-powered bikes around campus. There was no cost to the university; Lime, through its mobile app, charged \$1 per half hour of ride time, or half price for university students, faculty and staff.

The company added another 200 bikes the following spring, including some with electric assist to help riders maintain their speed and climb hills.

Since then, Lime has changed its mix at NCSU, bringing in scooters and more electric bicycles and reducing the number of traditional bikes. This winter, the company pulled the last of its pedal bikes off campus, said Sarah Williams, the university's director for transportation demand management.

"The ridership just wasn't enough to justify how much time and money they were spending doing maintenance on the bikes," Williams said.

Lime is not the only bikeshare company that has decided scooters are more lucrative. Spin, a San Francisco-based company that once had bikes in Durham, now offers only "shared electric scooters for cities and campuses."

FTA rates Durham-Orange light-rail project 'medium,' calls financials 'optimistic'

The Herald-Sun By Tammy Grubb March 19, 2019

DURHAM – A Federal Transit Administration report posted Friday rated the Durham-Orange light-rail project "low" for its cost-effectiveness as GoTriangle and elected leaders wrestle with a growing construction budget and reluctant partners.

The project's overall rating - for a second time - was "medium."

The FTA rating scale has five levels, with "low" at the bottom. The FTA uses the ratings to judge whether a transit project is feasible and ready to be built. The ratings also will be used to determine whether the light-rail project gets \$1.24 billion in federal grant money.

The FTA's fiscal year 2020 Annual Report on Funding Recommendations said GoTriangle was being "optimistic" about how much money car registration and rental fees in Durham and Orange counties would generate for construction. The project also relies on a half-cent dedicated sales tax in the two counties.

The project's estimated construction cost, which has risen to \$2.7 billion since the FTA's November review, also is optimistic, it said.

The financial outlook was a mixed bag: "medium high" overall, but "medium low" for its "reasonableness" and "medium" for its commitment of local funds. Besides sale taxes and fees, the local funding includes \$102.5 million in land and cash donations. A nonprofit fundraising group has raised only \$15 million so far.

GoTriangle officials did not respond to requests for comment.

The latest rating does not appear to reflect Duke University's opposition to the light-rail line's planned route along Erwin Road or the addition of bridges, underpasses and a tunnel in downtown Durham.

The GoTriangle Board of Trustees, which includes elected officials from Durham, Orange and Wake counties, will consider next steps for the light-rail project March 27.

"The path forward requires additional money," interim project director John Tallmadge said in an interview Monday after a Coalition for Affordable Housing and Transit meeting in Durham.

"As of today this still appears to be a viable project," he said. "I know the word out there is Duke has killed it. We're not dead yet."

NEW STARTS GRANT

A medium rating is the lowest score a project can earn and still receive a federal New Starts transit grant. Most projects that have won federal grants were rated "medium high." Charlotte's LYNX Blue Line and Blue Line Extension projects were rated "medium" for project criteria when submitted, but their financial plans were upgraded to "medium high" before being funded in 2002 and 2012.

FTA officials do not comment publicly about proposed projects, but the ratings are based on several factors, including a project's financial plan, congestion and environmental benefits, and how well it addresses economic development, housing and mobility goals.

FTA officials could update the project score before an April 30 state deadline for submitting a federal grant application and having the local money in place. The state also set a Nov. 30 for having the federal funding.

Missing either deadline could cost the project \$190 million in state funding.

ADDITIONAL RISK

Duke's decision, N.C. Railroad Company's hesitation in signing its cooperative agreement and the additional costs will create additional risk for the project and require GoTriangle to set more money aside for contingencies. An FTA draft risk report sent Feb. 26 warned the N.C. Railroad agreement is critical.

The report also encouraged GoTriangle to add more people who can "build and sustain a more effective working relationship" with its partners and secure land needed for the project. It's important that the project stay on schedule, FTA officials said.

The project's previous rating — issued in July 2017 — included a medium-high score for the capital and operations at that time, medium score for the amount of local and state money that had been committed, and a medium-low score for the project's financial estimates.

The project's cost-effectiveness was not rated in 2017.

Project staff is working on several details as the deadline nears, including a revised environmental study for the downtown corridor and new financial plans and cost-sharing agreements for Durham and Orange counties.

Both updates will require public comment periods. An FTA review of the final project budget may not be done until April, Tallmadge has said. Orange and Durham commissioners will have to approve the new financial plan and cost-sharing agreement.

Orange County has capped its construction cost at \$149.5 million; Durham County's share is about \$1 billion. Neither figure includes interest on short- and long-term debt.

Durham officials are deciding whether to pay the new costs and any costs for acquiring Duke's land. Durham took on \$57.6 million last year to cover a shortfall in expected state funding.

If the project gets an FTA grant, half of the \$135 million that already has been spent will be reimbursed. If not, that money is gone.

GoTriangle could buy Duke's land through eminent domain, but that could involve a court battle lasting well past the April 30 deadline for submitting a grant application.

Staff writer Mark Schultz contributed to this story.

Has Duke killed the Durham-Orange light-rail project? Here's what leaders say now

The Herald-Sun By Tammy Grubb March 13, 2019

DURHAM – Duke University may have dealt a devastating blow to the Durham-Orange light-rail project, but GoTriangle and some local leaders say it's not done yet.

"It's not dead until we say it's dead," Orange County Commissioner Mark Marcoplos said Tuesday night

A March 5 Indy story quoted him as saying Duke's decision leaves the light-rail project "99 percent dead."

"Another way to say it, it's on life support, but it still has a heartbeat," he said. "There's options to explore and questions to answer, such as if we took the eminent domain route. Would that mean we didn't need a cooperative agreement with Duke?"

The cooperative agreement, which Duke rejected Feb. 27, would have continued its collaboration with GoTriangle. A lease agreement for the land needed for light rail would have come later.

Marcoplos and Durham County Commissioner Wendy Jacobs said elected officials owe it to the people who spent years working on and supporting the light-rail project to consider every option. Both are members of the GoTriangle Board of Trustees.

Jacobs also noted the spending so far of over \$135 million in Orange and Durham sales taxes and car rental and registration fees. The money is a drop in the bucket compared to the light-rail project's now nearly \$2.7 billion construction cost. Federal money is expected to pay about \$1.25 billion, with another \$190 million from the state.

An FTA grant would reimburse half of the money spent so far on environmental studies, staffing, consultants, planning, design work and engineering. No grant means that money is gone.

"When something like this happens and you have a tremendous, devastating blow, which is Duke basically walking away from this process, you don't just all of a sudden give up," Jacobs said. "Personally, it would be irresponsible of me as an elected official and as somebody who is on the GoTriangle board and on the (Durham-Chapel Hill-Carrboro) MPO board to do that."

Light rail is one of two key projects for the Triangle's economic and population growth, N.C. Department of Transportation Secretary Jim Trogdon told the Durham-Chapel Hill-Carrboro planning group Wednesday. The other is the I-540 project in Wake County, he said.

"Those two single projects will have more impact on the region's future than any others that we have," Trogdon said.

"Can you talk to Duke?" Orange County Commissioners Chair Penny Rich quipped, to laughter from the room.

"I have shared my thoughts," Trogdon responded.

Orange County has capped its construction cost at \$149.5 million; Durham's share is roughly \$1 billion with the additional costs. Neither figure includes interest on debt.

The project is on a challenging path, from getting Duke's land to raising private donations and deciding how to pay for increasing costs. GoTriangle also continues to negotiate with N.C. Railroad Company and Norfolk Southern for a cooperative agreement and land lease.

N.C. Railroad officials have told GoTriangle that plans for the two-mile rail corridor are only 20 percent complete and do not address their concerns. Tallmadge said Tuesday that work could be done by an April 30 state deadline for having local money and pledges in place. The state has set a Nov. 30 deadline for getting the Federal Transit Administration grant.

The Durham and Orange County commissioners could get revised financial plans and new cost-sharing agreement in the next few weeks, Tallmadge said. Missing either deadline risks losing state funding.

Meanwhile, attorneys are exploring options for Duke's land between U.S. 15-501 and the Washington Duke Golf Club, along Erwin Road and near Buchanan Boulevard. Eminent domain would start with a land appraisal, a fair market offer to buy the land and negotiations with Duke. The last step — condemnation — would take Duke's land for the fair market value but could start a protracted legal battle.

"We have to keep making every effort to assess all the challenges and all the risks and look at all the options we have, and make the best decision, possible because of the incredible investment that we've already made," Jacobs said, "and because so much of our future for Durham and Orange and the region is based on this plan, on this project."

That is especially true for Durham, she noted, because of the years planning for light-rail station growth, transportation, affordable housing and "sustainable, walkable, mixed-use communities." There's also been workforce development planning with Durham Tech and GoTriangle, she said.

"At end of the day, if the light-rail project falls through, we have just lost our entire strategy for managing our growth for the region, connecting people to jobs, (and) providing an alternative form of transportation as traffic gets worse," Jacobs said.

DID DUKE KILL LIGHT RAIL?

Duke's decision not to sign a cooperative agreement — and not donate \$16 million in land at the heart of the light-rail route — is a serious hurdle but not the only one. Read more about previous challenges at bit.ly/2T56tt0.

New hurdles were revealed this week, including an FTA request to revise the environmental study for downtown Durham. Local officials learned that study would be required after the federal shutdown ended in February, Marcoplos said.

It must be drafted, submitted for 30 days of public comment and revised again before April 30. The final light-rail plan also has to be completed and posted for public comment by the deadline.

Duke's decision to pull out also has affected GoTriangle's private fundraising effort, Tallmadge said. The nonprofit GoTransit Partners has raised \$15 million of \$102.5 million in needed cash and land donations, mostly from UNC and

N.C. Central University. Now corporate donors want to know the project is going to be built before pledging a donation, he said.

Local money could be used to fill the gap until those donations come in, he added.

ADDRESSING DUKE'S CONCERNS

Duke officials have issued multiple letters outlining their concerns since November. GoTriangle officials said they have tried to address those concerns, which include:

• Rail alignment: Duke officials say any rail line that follows Erwin Road is unacceptable. Documents show Duke did not raise that concern until after GoTriangle received its Record of Decision from the FTA in 2016. At that point, the route could not be changed.

• Safety and emergency access: GoTriangle agreed to work with Duke to manage traffic during construction and give emergency vehicles priority in traffic using signal pre-emption technology. GoTriangle also added a \$90 million elevated track on Erwin Road.

• Vibrations: GoTriangle would use construction techniques and monitoring to minimize the effect of vibrations from rail building activities and passing trains. Duke wants a vibration standard that Tallmadge said "is 40 times more stringent than the standard for especially sensitive operating rooms."

• Electromagnetic interference (EMI): GoTriangle documents show Duke first raised concerns about EMI affecting sensitive research and medical equipment in November 2017. GoTriangle officials said they still don't have critical information about where the equipment is located.

"There are technical solutions, and nobody has ever said we will not address any of the concerns," Jacobs said. "It's not fair at this point to kill the whole project because you did not do your own homework."

If Duke knew about EMI earlier but failed to mention it, she said, "then it's irresponsible of them to let us go and spend \$130 million if they were never going to agree to it."

Duke sees the conversation differently, according to an email Wednesday from Michael Schoenfeld, Duke's vice president for public affairs and government relations. He referred questions about EMI issues and why they haven't been addressed to GoTriangle.

"Duke has said consistently for 20 years that placing a rail line down Erwin Road was problematic for a number of reasons," Schoenfeld said. "Duke expressed these concerns when the initial plan was for a diesel commuter train, and after it shifted to an electric light rail."

Multiple requests for documents that reflect those conversations have been met with a link to a 1999 interview with former Duke President Nan Keohane. Keohane, in the Duke Chronicle story, said Duke opposed an elevated track on Erwin Road route, and "the change of character of the neighborhood that this would cause."

Duke officials did not cite concerns about the light-rail route or EMI in years of documents submitted to the FTA. GoTriangle also did not mention EMI in its 2016 environmental study, Schoenfeld said, "which means they were either unaware of this well-known issue, or chose not to disclose it," he said.

"To be clear: GoTriangle, not Duke, is responsible for building and operating a rail line safely and without creating danger to public health," he said. "Why GoTriangle did not acknowledge the hazards presented by EMI until Duke pointed it out to them is question they need to answer."

GoTriangle delays meeting on future of Durham-Orange light-rail project without Duke

The Herald-Sun By Tammy Grubb March 11, 2019

DURHAM – A meeting to talk about how the Durham-Orange light-rail project can keep moving without Duke University's cooperation has been postponed.

GoTriangle officials announced Monday that its Board of Trustees meeting set for Tuesday, March 12, would be moved to the board's regularly scheduled March 27 meeting.

The delay gives GoTriangle staff time to continue working on updated details and budget information for the 18-mile light-rail plan, GoTriangle officials said in a news release. They also are waiting for additional feedback from the Federal Transit Administration, which is reviewing the project and its potential risks, as well as from North Carolina Railroad officials.