Mapping Regulatory Efficiency: Telecommunications Tower Development in Tallahassee

By
Samuel R. Staley and Matthew Kelly

Executive Summary

This report maps local telecommunications tower regulation as a way of evaluating the impact of regulatory procedures on business development in cities. Of particular interest is the role of discretion in the regulatory process and whether private or public interests are served at different stages of review and approval. After briefly summarizing the history of telecommunications regulation and its economic policy justifications, the report evaluates the local government permitting process in Tallahassee, Florida, mapping it step-by-step with the aid of a detailed case study encompassing more than 100 contacts with local officials.

A review of 29 telecommunications tower permit applications in Tallahassee determined that the average time spent in the permitting process between 1997 and 2011 was 274 days, ranging from a minimum of seven days to a maximum of 688 days. The length and variability of the permit times suggested that local regulators wield substantial discretion over the pace of approvals at different stages of the development process. This discretion creates uncertainty in the regulatory process and, to the extent it fails to serve a public interest, discourages private investment and economic development.

A second stage analysis explores the detail of the approval process using a specific case study. Evidence was drawn from records provided by the Tallahassee Growth Management Department and detailed logs kept by the private developers. The permitting process required nearly one and a half years to obtain approval for tower construction, even though the tower was on private property and posed minimal risk to the general public. Records showed securing permits required more than 90 phone calls and 50 trips to government agencies before the final permit was approved.

The policy report recommends several changes to the regulatory process, including

1. *Expediting permits that do not pose significant risks to public health and welfare.*
2. *Improving coordination among city regulators.*
3. *Simplifying the zoning ordinance to minimize regulatory discretion.*
4. *Improving record keeping for tracking permits and correspondence.*
5. *Ensuring transparency and improving accountability by marking each permit with a date of submission and approval.*
6. *Placing the burden of proof for a public need on regulators rather than the developers.*

Policy Report, July 2016

DeVoe L. Moore Center, 150 Bellamy Building, Florida State university
Tallahassee, Florida, 32306-2220, v. 850.644.3848, f. 850.644.0584, http://coss.fsu.edu/dmc

This Policy Report is published and distributed by:

The DeVoe L. Moore Center
150 Bellamy Building
Florida State University
Tallahassee, Florida, 32306-2220
v. 850.644.3848
f. 850.644.0584
http://coss.fsu.edu/dmc

About the DeVoe L. Moore Center

The DeVoe L. Moore Center is an academic and applied policy research center in the College of Social Sciences and Public Policy at Florida State University focusing on state and local government, land use, growth management, and regulation. Since its founding in 1998 through an endowment to the university, the Center has sponsored research resulting in 25 conferences, ten books, and nine special issues in leading academic journals, nurtured more than 80 business plans for social enterprises, helped establish social enterprises in Florida, Africa, Asia, and the Caribbean, and funded more than 30 dissertation research fellows. Under the leadership of DeVoe Moore Eminent Scholar Keith Ihlanfeldt, the Center's programming has established nationally recognized research programs on topics such as impact fees, housing foreclosures, and housing affordability.

For additional information, contact:

Samuel R. Staley, Ph.D.
Director, DeVoe L. Moore Center
e. sstaley@fsu.edu, v. 850.645.9694

Judy Kirk
Business Manager
e. jkirk@fsu.edu, v. 850.644.3849

Mapping Local Regulatory Efficiency: Telecommunications Tower Development in Tallahassee

By Samuel Staley and Matthew Kelly

1. Introduction

An efficient regulatory process is essential to the business development strategies of cities. Regulations that are cumbersome or unnecessary increase the costs of doing business, which in turn increases the prices paid by customers, discourages investment in a community, and reduces the employment opportunities and incomes of residents. In fact, at the national level, economists have estimated that a 10 percent increase in federal regulation is associated with a 0.5 percent reduction in new firm births and a 0.9 percent decrease in hiring.[1] Variability and a lack of transparency in the regulatory process can also reduce government accountability and increase the potential for corruption or opportunistic intervention by regulators.

This report examines a particular slice of the local regulatory pie, telecommunications tower permitting, as a way to more fully understand the effects of the zoning, growth management and permitting process on commercial development. After briefly summarizing the history of telecommunications regulation and its economic policy justifications, the report evaluates the local government permitting process in Tallahassee, Florida, mapping it step-by-step with the aid of a case study. Of particular interest is whether Tallahassee's regulatory process promotes the public interest at each of these steps. The average time spent in the permitting process for tower developers between 1997 and 2011 was 274 days, with a minimum of seven days and a maximum of 688 days. The length and variability of this process suggests that Tallahassee regulators wield substantial discretion. This discretion may create uncertainty in the regulatory process and, to the extent it fails to serve a public interest by addressing legitimate market failures, discourages private investment and economic development.

Research material for this report was drawn primarily from the records of the Tallahassee Growth Management Department and a detailed log kept by Freddie Figgers, an information technology specialist who, with business partner DeVoe L. Moore, spent almost one and a half years obtaining approval for a cellular tower construction on Moore's property. After making more than 90 phone calls and 50 trips to government agencies, they received approval to build the tower. According to conversations with other tower developers the length of this particular project's permitting process was not unique, and certain elements appear to be systemic. This project's attributes, regulatory fees, and length of time are close enough to citywide averages to make it a representative case for study. Policy recommendations in the final section are discussed as ways to improve the regulatory process so that it promotes the public interest while encouraging private investment and entrepreneurship.

[1] James Bailey and Diana Thomas, "Regulating Away Competition: The Effect of Regulation on Entrepreneurship and Employment" (Mercatus Working Paper, Mercatus Center, George Mason University, Arlington, VA, 2015), http://mercatus.org/publication/regulating-away-competition-effect-regulation-entrepreneurship-and-employment.

2. Telecommunications and Regulation

The telecommunications sector plays a vital role in the local economy by reducing the costs of communication and information transfer and allowing labor to better specialize, increasing productivity. In the twentieth century, railroads and automobiles expanded the reach of local economies, improving the standard of living. Telecommunications has had much the same impact today.[2] Innovation in the telecommunications sector has reduced costs for consumers while giving entrepreneurs new flexibility and networking potential. Less tangible but equally significant benefits include enhanced educational and entertainment experiences and improved communication between friends and loved ones.

The telecommunications sector plays a vital role in the local economy by reducing the costs of communication and information transfer and allowing labor to better specialize, increasing productivity.

Governments have regulated the telecommunications industry using several different regulatory mechanisms and adopting varying regulatory philosophies since the invention of radio and wired communication. Federal regulations intersect with those of local governments, forming a patchwork of permitting and licensing processes that can be difficult for entrepreneurs to navigate. The costs of complying with these regulations can reduce the supply of telecommunications services or create inefficient allocations of such resources. These costs should be weighed against whatever public benefit they create.

The Federal Radio Commission was created in 1926 to regulate radio in the United States, with the Interstate Commerce Department having a supplementary role.[3] In 1934, the Federal Communications Commission (FCC) succeeded the Federal Radio Commission and the Interstate Commerce Department as the regulatory authority over radio and other broadcast forms of communications. The FCC's main role was to set and enforce censorship rules, assign radio and broadband spectrum via licenses, and control prices.

Technological change has rapidly challenged and undermined the FCC's role.[4] In the first decade of the twenty-first century, the FCC struggled to keep up with changes in telecommunications, including the integration of telecommunications services with computers, the expansion of the Internet, and the widespread adoption of cable and satellite services.[5] The lag in adapting regulation to technological change has proven costly. MIT economist Jerry Hausman estimates that the FCC's more than decade-long delay in licensing cellular

[2] John Haring, "Telecommunications," in *Concise Encyclopedia of Economics*, ed. David R. Henderson (Liberty Fund, Inc., 2008), http://www.econlib.org/library/Enc/Telecommunications.html.
[3] Ibid.
[4] Nicholas Economides, "Telecommunications Regulation: An Introduction," (NYU Working Paper No. EC-04-10, Stern School of Business, New York University, New York, NY, 2004), http://ssrn.com/abstract=465020.
[5] Ibid.

telecommunications costs consumers between $24.3 billion and $33.5 billion annually in terms of consumer surplus.[6]

Under the Telecommunications Act of 1996, the FCC's role shifted ostensibly to promoting competition and protecting consumers from unethical business practices.[7] Yet efforts by the FCC to protect consumers have had mixed results. Attempts to improve transparency in pricing and charges for wireless services have created unintended consequences.[8] Economists Jerry Ellig and James Taylor estimate the net losses to society caused by taxation, universal service charges, and regulation-related fees on wireless communications service providers were $9.6 billion in 2004.[9] They also criticize the FCC's "truth-in-billing" regulations for failing to reveal these costs accurately to consumers. While spectrum allocation has become more flexible in recent years, the FCC has likely under-allocated spectrum to wireless services, limiting the ability of suppliers to meet rising demand for this technology.[10] Overall, FCC regulations may reduce consumer welfare by as much as $25 billion annually and social welfare by $41 billion annually.[11]

The Role of Local Governments

Building the infrastructure necessary to provide telecommunications services requires firms to go through the zoning, business incorporation, and building permitting processes created by local governments.[12] This is the case in Tallahassee.[13] In theory, clear distinctions exist between the roles of the FCC and local governments. Federal regulation focuses on how and when services will be supplied. Local governments do not regulate the supply directly, nor do they set technical standards for electromagnetic safety. In fact, the 1996 Telecommunications Act explicitly restricts local governments to compliance with the land use and business regulations present in the local area. The act stipulates that local governments must respond to requests for permission to construct wireless telecommunications facilities within a reasonable time frame, and prohibits discrimination among telecommunications companies. [14] Moreover, the act imposes "nationwide standards for

The 1996 Telecommunications Act explicitly restricts local governments to compliance with the land use and business regulations present in the local area.

[6] Jerry A. Hausman, "Valuing the Effect of Regulation on New Services in Telecommunications," *Brookings Papers on Economic Activity, Microeconomics*, 1997: 1–54.
[7] Haring, "Telecommunications."
[8] Jerry Ellig and James N. Taylor, "The Irony of Transparency: Unintended Consequences of Wireless Truth-in-Billing, *Loyola Consumer Law Review* 19, no. 1 (2006): 43–69, http://lawecommons.luc.edu/lclr/vol19/iss1/3.
[9] Ibid.
[10] Jerry Ellig, "Costs and Consequences," *Regulation* 28 (Fall 2005): 40–44, http://ssrn.com/abstract=820406.
[11] Ibid.
[12] Local Government Commission of the Pennsylvania General Assembly, "Regulation of Wireless Telecommunications Facilities," in *Pennsylvania Legislator's Municipal Deskbook*, 4th ed. (Harrisburg: Local Government Commission, 2014), http://www.lgc.state.pa.us/download.cfm?file=/Reports/deskbook14/Land-Use-03-Regulation-of-Wireless-Telecommunications-Facilites.pdf.
[13] Tallahassee, Fla., Ordinances §19-122(c) (2002).
[14] Local Government Commission of the Pennsylvania General Assembly, "Regulation of Wireless Telecommunications Facilities."

competition and take[s] some regulatory power away from the states."[15] Thus, the FCC has principal responsibility for addressing monopolization, public goods problems, and information asymmetries, the classic economic justifications for regulating business and industry. However well or poorly the FCC fulfills this role, these particular market failure concerns are not the province of local governments.

In practice, however, local governments sometimes go beyond their mandate and have sought to regulate supply. Local residents, for example, have been wary of telecoms towers' potential impact on home prices.[16] Caught between local residents who perceive towers to have a negative impact and tower developers seeking to serve the demand for cellular telecommunications services, local regulators in some places have responded by overstepping their legal authority.[17]

Local governments sometimes go beyond their mandate and have sought to regulate supply.

Potential Problems with Regulation

This overlap between the FCC and local governments is problematic. If too many departments or levels of government assign property rights over a good or service, a "tragedy of the anticommons" may ensue, in which undersupply and underutilization of the resource results, in this case spectrum available for cellular or wireless services.[18] With federal and local governments both occupying roles in telecoms regulation, and with multiple departments fulfilling each government's mandate, municipalities risk losing out on the benefits of telecommunications services.

An excessively complex regulatory environment encourages businesses to compete based on political connections rather than service quality and price. As a regulator's authority increases, existing ("legacy") providers have a greater opportunity to take advantage of poor information or a poor understanding of industry dynamics among regulators to secure an economic advantage over competitors. Such "regulatory capture" has emerged as a significant impediment to competition at the local level in several regulated industries, including taxis, banking, and hospitals.

While regulations are often adopted to promote the public interest, regulators and competitors can use their influence in the regulatory system to pursue private interests. As Nicholas Economides writes, "the vagueness of the concept of the public interest" allows special interests to

[15] Economides, "Telecommunications Regulation."
[16] Sandy Bond, "The Effect of Distance to Cell Phone Towers on House Prices in Florida," *Appraisal Journal* 75 (Fall 2007): 362–370.
[17] See the following cases for examples*: C-Call Corp. v. Zoning Bd. of Appeals of City of Edwardsville*, 700 N.E.2d 441 (Ill. App. Ct. 1998); *Omnipoint Corp. v. Zoning Hearing Bd. of Pine Grove Township*, 181 F.3d 403 (3d Cir. 1999); and *T-Mobile, S., LLC v. City of Roswell*, 135 S. Ct. 808 (2015).
[18] Matthew Mitchell and Thomas Stratmann, "Wireless Taxes and Fees: A Tragedy of The Anticommons" (Mercatus Working Paper, Mercatus Center, George Mason University, Arlington, VA, 2012), http://mercatus.org/sites/default/files/publication/Wireless_StratmannMitchell_WP1206.pdf.

lobby politicians and regulators to include their objectives as part of the public interest. This rent-seeking behavior sometimes leads…telecommunications regulators to impose policies that have little to do with telecommunications markets.... Regulated firms may be able to use the regulatory setup to create barriers to entry and thereby perpetuate their profitable existence."[19]

Local regulation can have a negative impact on economic development by creating barriers to entry such as increased project costs and higher transaction costs through negotiations with local governments over land use and permitting. Economists Keith Ihlanfeldt and Gregory Burge, for example, found that impact fees—charges levied on land developers to pay for infrastructure—reduce private sector employment.[20] Dartmouth economist William Fischel concludes in his seminal book *Zoning Rules!* that excessive zoning and growth management regulations, driven by resident concerns for protecting their home values, "contribute to suburban sprawl, entrench income and racial segregation, retard regional immigration to the most productive cities, add to national wealth inequality, and slow the growth of the American economy."[21] Processes that require public input can also increase costs. An empirical examination of public referenda on land development projects in 67 Ohio cities found that the uncertainty created through the referenda process had a larger impact than other factors such as local fiscal policy and demographics.[22] Similarly restrictive land use regulation disrupts efficient housing production, contributing to cyclical booms and busts in the housing market.[23] The effects are sufficiently large that some economists now refer to land use and growth management approval processes as a "regulatory tax."[24] Such barriers to entry reduce investment and employment in cities.

Local regulation can have a negative impact on economic development by creating barriers to entry.

Developers of telecommunications towers in Tallahassee suggest that legacy providers receive a degree of favoritism. Some noted in private phone conversations with the authors that tower projects initiated by the city seemed to obtain approval markedly more quickly than those initiated by private developers. While some disagreement exists among developers as to how much the permitting process actually hinders development, most indicated that it is needlessly

[19] Economides, "Telecommunications Regulation."
[20] Gregory Burge and Keith Ihlanfeldt, "Development Impact Fees and Employment," *Regional Science and Urban Economics*, 39 (January 2009): 54–62.
[21] William A. Fischel, *Zoning Rules! The Economics of Land Use Regulation*, (Cambridge, MA: Lincoln Institute of Land Policy, 2015).
[22] Samuel R. Staley, "Ballot-Box Zoning, Transaction Costs, and Urban Growth," *Journal of the American Planning Association*, 67, no. 1 (2001): 25–37.
[23] Haifang Huang and Yao Tang, "Residential Land Use Regulation and the US Housing Price Cycle Between 2000 and 2009," *Journal of Urban Economics* 71 (January 2012): 93–99.
[24] Ron Cheung, Keith Ihlandfeldt, and Thomas Mayock, "The Regulatory Tax and House Price Appreciation in Florida," *Journal of Housing Economics*, 18 (March 2009): 34–48. See also Edward L. Glaeser, Joseph Gyourko, and Raven Saks, "Why is Manhattan So Expensive? Regulation and the Rise in Housing Prices," *Journal of Law and Economics*, 48 (October 2005): 331–369; and Leonard C. Gilroy, Samuel R. Staley, and Sara Stedron, *Statewide Growth Management and Housing Affordability in Florida*, Backgrounder series no. 53, Tallahassee, FL, James Madison Institute, 2007.

lengthy and they experienced many delays that appeared to have no rational purpose. Consumers ultimately pay for these regulatory costs.

Potentially exacerbating these issues are gaps in record keeping by regulatory authorities. Florida's "Sunshine Law" requires that public records be kept by government agencies and open for inspection at any time.[25] "Public records" can mean anything from permit applications and approvals to officials' emails, even if sent from a private account. With nearly every economic development project requiring a permit of some kind, records related to the permitting process are particularly useful for monitoring and evaluating the government sector's impact on the private sector. Close examinations of the Tallahassee Growth Management Department's records for telecoms tower permits revealed an incomplete record keeping process, making it difficult to answer simple questions such as when projects entered the regulatory process, when projects were approved, or alternatively, when the developers chose not to proceed with the process. Keeping track of attributes of the projects, fees applied to developers, and deviations from prescribed regulations is considered an essential duty of local government. Accurate and thorough record keeping is essential to accountability and determining the overall effect of regulation.[26]

A high degree of variability in the length of time to process and approve permits may indicate that city officials wield an inappropriate level of discretion in enforcing regulations, and the case study in the next section attempts to examine this phenomenon in Tallahassee. An examination of telecommunications tower permitting in the City of Tallahassee over a 15-year period discovered that the permitting process ranged from just seven days—less than one month—to 688 days—22 months. The case analysis suggests that the attributes of these projects (height, proximity to residential neighborhoods, project value, etc.) did not explain the differences in permit processing times. Whether this variability is a result of regulatory capture or merely a consequence of poor administration is unclear, but the negative effect on future investment is identical in either case.

Close examinations of the Tallahassee Growth Management Department's records for telecoms tower permits revealed an incomplete record keeping process.

Public vs. Private Interests

In economics, promoting the public interest means promoting economic efficiency and social welfare by correcting or avoiding so-called "market failures," such as environmental damage or other spillovers that might impact neighbors or the community more broadly. For example, a large housing development might generate stormwater runoff that affects neighboring homes or creates flooding in nearby streams or ponds. If regulations require private land owners or developers to internalize these spillover impacts (negative externalities), reduce the costs associated with enforcing contracts, prevent monopolization, reduce information asymmetries, or

[25] See "Open Government: The Sunshine Law," Florida Office of the Attorney General, http://myfloridalegal.com/pages.nsf/Main/DC0B20B7DC22B7418525791B006A54E4, accessed March 16, 2016.
[26] Of course, the costs of regulation discussed above must be weighed against the benefits that regulation may create. If costs outweigh benefits, regulations cease to serve the public interest and should be eliminated or streamlined to reduce waste.

otherwise promote innovation in telecommunications services, then such regulations might improve economic efficiency, and arguably would serve the public interest.

In the telecommunications industry, however, most potential market failures not attributed to local environmental impacts are expected to be addressed at the federal level through the FCC. Local zoning codes and environmental policies can ensure a tower is not too close to other buildings, keep residential areas free of commercial or industrial activity, or shield natural habitats from intrusive development. While the efficacy of such zoning laws may be called into question, they can be improved through changes by the elected city commission. Tallahassee's Growth Management Department would be tasked with making sure new towers comply with these land use laws.

However, regulations imposed to offset market failures can also create government failures. Price controls can lead to shortages or overinvestment. Onerous permitting processes can increase the cost of doing business, limit the kinds of innovation possible, and ultimately reduce the quality of life in a community. Favoritism and outright corruption can result from the discretion wielded by regulators. Determining the appropriateness of a regulatory regime requires us to consider both the failures present in the market and the government failures that regulations may produce.

Two theories of regulation are often used to describe the behavior of public officials. The *public interest theory* holds that government is an impartial arbiter, seeking to address market failures and promote the public interest. This theory ignores the role of regulatory agencies as stakeholders with incentives to expand their authority and budgets. The *private interest theory*, in contrast, acknowledges that government is made up of individuals with biases and interests. [27]

The high degree of variability present in Tallahassee's permitting process suggests that city officials may use their discretion to enforce regulations in ways that serve private or regulatory interests rather than the public interest, effectively raising additional barriers to entry in the telecommunications sector and allowing them to favor some businesses over others.

The high degree of variability present in Tallahassee's permitting process suggests that city officials may use their discretion to enforce regulations in ways that serve private or regulatory interests rather than the public interest.

Notably, conversations with tower developers throughout the state of Florida suggest that the local government permitting process has become somewhat easier to navigate and more predictable since the early days of telecommunications. Developers speculated that regulators hesitated to permit towers in the 1990s and the early 2000s because of their unfamiliarity with telecoms technology and fear of retribution from voting residents. As local ordinances changed and residents became more aware of the technology and advantages of cellular reception, permitting became more predictable for developers. Developers stated that larger markets in Miami-Dade, Broward, and Orange counties reportedly saw the most improvement. However, this improvement came only after the tower construction boom subsided in the late 2000s. The cost of government failure in terms of lost

[27] George J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* 2 (Spring 1971): 3–21; and Richard A. Posner, "Theories of Economic Regulation," *Bell Journal of Economics and Management Science* 5 (Autumn 1974): 335–358.

revenue and consumer surplus had already been exacted. Furthermore, developers were clear that while the variability in permitting time has reportedly been reduced, the length has not. Most developers said they still expect to spend a year obtaining government permits to build a tower.

In Tallahassee, no substantive changes have been made to ordinances for telecoms regulations since 2002.[28] More relevantly, developers interviewed as part of the research for this policy report indicated that favoritism and overly long approval times persist in the city's regulatory system. The statistics reported in Appendix A appear to confirm this general observation. The case study in the next section describes the experience of one of Tallahassee's recent tower developers, and also suggests that process length and discretion have not improved.

[28] Tallahassee, Fla., Ordinances ch. 19 (2002).

3. Telecommunications Tower Permitting in Tallahassee, Florida

A detailed examination of telecommunications tower permits was undertaken to more fully understand the local permitting process. According to the Tallahassee Growth Management Department (TGMD), twenty-nine building permits for new telecommunications towers were issued between December 1997 and March 2011. Developers of four other projects began the process, but failed to obtain a building permit. Whether their failure was because of resistance from regulators, local community opposition, a lack of private funding, or other project-specific reasons cannot be conclusively determined from the records. Two towers appear to have been built but lack nearly all documentation in the city's records, so it was not possible to know when they began or completed the process.

The average number of days tower developers spent in this approval process was 274, or about nine months for the projects with complete records.[29] The average reported value of these projects was $66,684. The fees applied to these projects during the permitting process averaged $2,224, or 3.3 percent of the average project value. The time from first recorded contact with the city to completion of the permitting process ranged from less than one month to almost two years. The average amount of time tower projects spent in the permitting process (marked from the date the Land Use Compliance Certificate was issued to the granting of a building permit) between 1997 and 2011 is summarized in figure 1.

The average number of days tower developers spent in this approval process was 274…. The average reported value of these projects was $66,684.

The building permit does not end the process, however. Construction cannot begin until permits are secured from the city allowing owners to install electrical, gas, and water facilities. City ordinances also require developers to provide officials with a detailed bimonthly progress report of construction after permits are obtained.[30] Additional permits are required in order for developers to install, repair, and replace antennas. Installation of an antenna is referred to as a "co-location," while "alterations" denote repairs and renovations. City records permits for 333 co-locations and 34 alterations made to existing towers. Both co-locations and alterations involve a simpler regulatory process than that required for new towers, and since 2012 the federal government mandates that local governments approve such modifications as long as they aren't fundamental.[31] (Co-locations and alterations do not require a concurrency certificate, a Natural Features Inventory, nor in some cases, an Environmental Management Permit).

[29] This appears to be somewhat shorter than the estimated time to secure permits elsewhere in the state based on conversations with developers (although these estimates are based on recollections and impressions, not actual data).
[30] Tallahassee, Fla., Ordinances §19-127 (2002).
[31] Federal Communications Commission, FCC Rcd. 14-153, Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies (2014).

While these wait times to obtain permits appear somewhat lengthy and variable, delays may be justified if they serve to correct the market failures discussed above. Does the length and variability of Tallahassee's permitting process serve the public interest? To more fully explain the role of the regulatory process in permitting a commercial telecommunications tower, a case study with detailed information about meetings, times, forms, and expenses incurred follows.

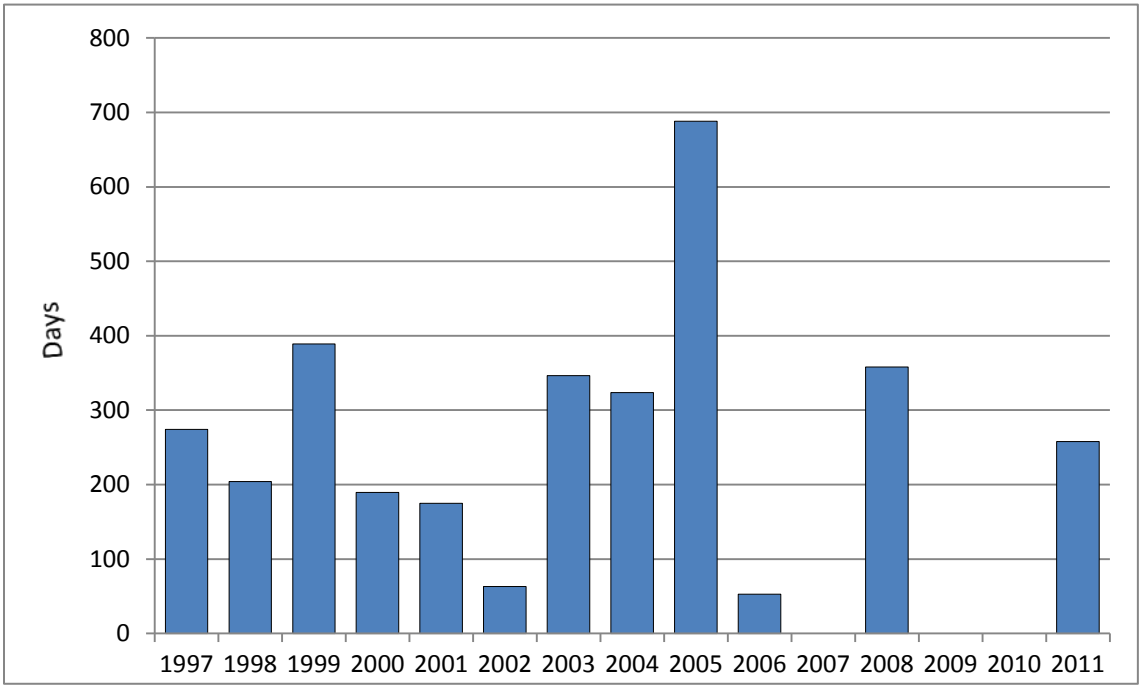

Figure 1. Average number of days for telecommunications tower projects in Tallahassee, Florida's regulatory permitting process.

Source: Calculated by authors from Tallahassee Growth Management Department public records. Values are given in the year a project began the process. No towers were permitted in 2007, 2009 or 2010.

The most recent tower constructed in Tallahassee for which TGMD had records was completed by D&F Communications, a partnership between DeVoe L. Moore and Freddie Figgers.[32] After obtaining a permit from the FCC to use the 3650-3700 MHz frequency band for wireless services, D&F Communications began the process to obtain necessary local government permits. [33]

The time between the issuance of the Land Use Compliance Certificate (LUCC) application and securing a building permit for this project (March 2012) was 258 days. This was very near to the average time of 274 days spent obtaining permits for all tower projects for which data were available. The estimated value of the project was listed at $68,000, similar to the

[32] See also Bryan Cherry, "Local Wireless Telecommunications Services Company Revealed," *Urban Tallahassee* (blog), July 28, 2013, http://www.urbantallahassee.com/index.php/component/k2/item/2747-local-wireless-telecommunication-services-company-revealed.

[33] The FCC permit can be found at http://wireless2.fcc.gov/UlsApp/UlsSearch/license.jsp?licKey=3317198, accessed March 16, 2016.

average of $66,684 for the other projects. The comparability of the D&F project to the other tower projects in terms of estimated value and duration in the permitting process, as well as other project attributes (height, plot size, etc.), make it an appropriate case for study of the process as a whole. Furthermore, conversations with other tower developers confirm that D&F Communications' experience was typical.

The company kept detailed accounts of the entire permitting process. D&F Communications personnel involved in the tower development project made a total of 90 phone calls to city officials, most of which were not answered or returned. Over 50 meetings with the City of Tallahassee Growth Management Department, the Development Review Committee, and the Mayor's Office took place. One annotation in the log said: "If I had not stayed on top of this project, it [the permitting process] would still be under way." Although the application for a Land Use Compliance Certificate (the first permit required in the permitting process) was submitted on December 6, 2010, it was not approved until July 13, 2011. Four hundred eighty-nine days passed between the date of first contact and the issuance of the building permit. The fees incurred in the permitting process totaled $7,672, or 11.3 percent of the estimated value of the project.

Figure 2. Location of telecommunications tower and Tallahassee Antique Car Museum.
Source: Google Earth

The city questioned several elements of the project, requiring D&F Communications to invest substantial resources to respond. For example,

- The city would not begin processing the application because the property was not listed in their database or system (December 9, 2010).
- The city reported that the land was zoned for commercial use and therefore excluded a wireless tower (December 20, 2010).
- The city would not allow construction of a new tower until D&F Communications provided a demonstration of economic need (December 28, 2010). This information was provided to the city on January 3, 2011.
- The city then said D&F had demonstrated a need for the service but not the need for a new tower on the land on which construction was proposed. D&F Communications was

told to justify not co-locating on another property with an existing tower (January 11, 2011).

- The city objected to the tower because of its proximity to two major highways (January 18, 2011). The principals met with the city on January 21, 2011, to explain the project was within the bounds set forth in the city ordinances and so met the legal requirements.
- The city rejected the D&F Communications analysis for not co-locating the tower on another property, demanding an analysis of potential alternative locations on rooftops or high-elevation buildings (January 31, 2011).
- The city again reported that the parcel on which the principals wanted to locate the tower did not exist even though a parcel ID had earlier been provided (March 3, 2011). D&F Communications decided to move the tower in order to keep the project advancing for review.
- The city requested a wide area tower search ring to determine whether existing antennas could be used instead of their proposed tower. This meant that D& F Communications would need to inspect every tower in a 10-mile radius with an elevation exceeding 250 feet and architectural characteristics that could support the weight and wind load of the tower (completed June 21, 2011).
- Upon submitting this report, the developers were informed that they would need to re-do the search ring and narrow the search area to three miles (completed August 4, 2011).
- On August 8, 2011, D&F Communications received a phone call from a TGMD representative who directly requested that the tower be placed on city property. This request was denied.
- Numerous requests to alter the project's location, construction materials, height, and other project attributes were made by city officials during the review process.
- After submitting the building permit application on February 6, 2012, D&F Communications was informed that the city could not accept it since Moore's contractor license was issued by the county, though this had never been a problem for previous developments.

In practice, the objections raised to projects were frequently unjustified on public interest grounds.

In theory, differences in processing times might be attributed to unique features of a proposed tower that impose external costs on the community.[34] In practice, however, the objections to applications raised by regulators in this case as well as others culled from the TGMD files were frequently unjustified on public interest grounds or did not appear to correspond to potential externalities (such as tower height, excessive land area, proximity to environmentally sensitive areas, whether the developer would remove trees or undertake landscaping) that might burden the community. The D&F Communications tower is located on property owned by one of the principals (see figure 2, figure 3, and figure 4), and this parcel's boundaries extend beyond any distance that the tower would affect in the case of an accident, minimizing the potential creation of externalities on other property owners or the community. The 250-foot tower was originally proposed for construction at the southeastern corner of Moore's Tallahassee Automobile and Collectibles Museum, but was

[34] Tallahassee, Fla., Ordinances §19-122 (2002).

relocated to the western side of the building. The only structures that would be damaged in the event of a catastrophic failure of the tower were buildings owned by one of the principals, a private party.

The steps in the permitting process for wireless telecommunications towers are complex and opaque from the point of view of developers. This is partly because a development project of the kind D&F Communications intended is relatively rare: just twenty-nine were permitted over the course of 15 years. The following sections detail the steps of the permitting process as they are described by the city ordinances and as experienced by D&F Communications.

Step 1. ***Applicant determines if the project is allowed within the zoning code.***

Figure 3. D&F Communications tower location.
Source: DeVoe L. Moore Center, Florida State University

The first step in the approval process is determining whether the proposed use of a property is consistent with the underlying zoning code. This occurs prior to filing applications for formal permits, and involves informal conversations with city officials. In principle, this should be a straightforward process. The applicants determine what kind of economic activity they want to undertake on a piece of property and consult a zoning map maintained by the city to check that their proposed use is in compliance with the allowed uses in that geographic area.

The process began with pre-submission meetings and contacts with the city to determine the quickest way to submit their project for approval. The first contact between the developers and the city was on November 17, 2010. D&F stated its intention to build a tower and was instructed by city staff to check such a project would be in compliance with the zoning code. Formal review of the site plan began on March 30, 2011.

Step 2. ***Applicant applies for a Land Use Compliance Certificate.***

After coming to the opinion that the project conforms to zoning regulations, the developer submits an application for a Land Use Compliance Certificate (LUCC) to secure a legal entitlement—formal permission from the city—to develop the property. The city either

approves the application or initiates a rezoning process for the land. Applications for an LUCC must show where, what, and how much the developer expects to build and the final use or purpose of the project. The Growth Management Department then compares the proposed project with the land development standards for the property in question and makes an official determination on whether the zoning code allows for such a project. This certificate is necessary for a project to move forward through the permitting process.

During the research for this project, no TGMD record was found verifying when D&F Communications sent in its LUCC application. The written log provided by the developers indicates that the application was submitted on December 6, 2010 with an overview image of the land on which the tower would be located. The applicants follow-uped three days later and were told by the city that their property "didn't exist" in the city's subdivision tracking system. Moore resolved this apparently minor discrepancy on December 13 by providing the tax-identification number for the parcel of land to prove its physical and virtual existence. The following week, the city informed D&F Communications that the property was not zoned for telecommunications tower use. The files documenting this stage of the process are sparse, and it cannot be determined what exactly allowed the process to proceed, but it is presumed that the property was rezoned to accommodate tower construction or the city determined that the zoning was compatible with tower construction. Either way, this issue appears to have been resolved.

However, on December 28, 2010, D&F Communications was informed that it would not be able to build a wireless telecommunications antenna and tower unless it could demonstrate a need for such services. D&F Communications provided a report prepared by engineers outlining the economic need for wireless services in Tallahassee and surrounding areas on January 3, 2011, and was told by a planner the city would review the report. On January 11, Moore called to check on the review, and was told that although the report showed the need for telecommunications services, it did not indicate that a new tower needed to be built on that particular piece of land. This element was not previously identified by city officials in their request for an economic justification for the service, and the developers thought they had addressed the location itself in pre-application meetings.

Figure 4. Base of D&F Communications wireless tower.

Source: DeVoe L. Moore Center, Florida State University

Officials asked D&F Communications to provide a reason why it could not simply co-habit the antenna on an existing tower. Notably, the proposed tower was located hundreds of feet from a major

thoroughfare and several thousand feet from adjacent residential properties. Nevertheless, Moore provided an explanation of the disadvantages of co-locating onto an existing tower, and was told that officials would contact him again after they had reviewed the proposal.

On January 18, 2011, personnel at D&F Communications received a phone call from TGMD telling them that the tower could not be placed on the designated location because it would be too close to US Highway 90 and Interstate 10. However, Section 10-425c(2)a of the city land development code specifies "communications antenna support structures shall not be located in areas more than 100 feet and less than 250 feet from the right-of-way" of gateway routes, including Mahan Drive from Meridian Street to I-10. The tower would be further than 250 feet from any major roads and thus in compliance with municipal ordinance. On January 31, TGMD accepted the contention of D&F Communications that co-locating its antenna on another tower was unfeasible.

On March 3, 2011, after D&F Communications submitted another report to TGMD explaining why the antenna could not be placed on rooftops or existing high-elevation structures, city officials informed the applicants that a parcel number still did not exist for the proposed location of the tower. Although D&F Communications had already provided the tax-identification number to officials in December 2010, officials maintained that since the parcel did not "technically exist" in their records, approval for construction would be denied unless the tower could be moved elsewhere on the land. On March 25, D&F Communications relocated the project to another section of Moore's property. However, throughout the rest of the permitting process officials continued to strongly suggest that the company find an existing building on which to place the antenna.

The certificate cost $122 in fees, a relatively small sum, but a substantial amount of time negotiating with officials.

The city began to review the D&F Communications tower proposal after four months and roughly 26 separate conversations. The Land Use Compliance Certificate was obtained on July 14, 2011. The certificate cost $122 in fees, a relatively small sum, but a substantial amount of time negotiating with officials.

Step 3. ***Applicant submits a concurrency application*****.**

In Florida, local governments have service level, or concurrency, requirements to ensure public utilities and facilities are in place to serve proposed projects. A concurrency application shows regulators the expected impact of a project on public facilities, such as roads, water, electric, sewers, solid waste landfills, transit, stormwater, and parks. Regulators then compare the project's expected impact with the available capacity of these facilities, to determine whether or not sufficient infrastructure is in place. If the capacity is adequate, then the developer will receive a concurrency certificate. This certificate, or a formal exemption to it, is required prior to any subsequent approvals.

A review of the city's records on concurrency found strikingly little documentation on this part of the process. Of 33 proposed towers (seven of which were not built), the case files of 22 projects have no concurrency documentation attached at all. Five projects have concurrency certificates and six were awarded exemptions. The awarding of exemptions is not surprising,

because telecommunications towers are not likely to exert much impact on public facilities: they rarely involve plumbing, sewer access, or increased traffic, and are usually powered with on-site generators. D&F Communications, in fact, did not intend to use city facilities or services. Electricity for the antenna would come from power panels already on Moore's property; and though Highway 90 would be used to access the construction site, the roadway leading to the site was already privately maintained. However, the project did not receive an exemption. The concurrency certificate for the D&F Communications tower cost $215 in fees and was approved on July 26, 2011, eight months after initial contact was made with the city.

Step 4. ***Applicant submits a Natural Features Inventory*****.**

Florida's planning statutes mandate that significant environmental features should be identified and preserved prior to land development. The Natural Features Inventory (NFI) must be prepared by the developer and approved by the TGMD. On the inventory of the property, the developer lists all of the significant existing environmental features, such as wetlands, water courses, forests, endangered species, and sinkholes. If the site does not contain any of these features, then a developer may request an inspection and waiver for this inventory. Exemptions for projects on land that has already been disturbed is also common. The inventory, along with several other permits (see below), is reviewed by the Development Review Committee (DRC) with the help of the TGMD. The D&F Communication Tower was not exempted from this process.

D&F Communications, in fact, did not intend to use city facilities or services…. However, the project did not receive an exemption.

Telecommunications towers are generally highly localized projects. In D&F Communications' case, the project had a land-use footprint about the size of a small house adjacent to a much larger existing building used by the Tallahassee Automobile and Collectibles Museum with a paved parking lot. In fact, it could have been exempted from the NFI, since the land was already disturbed. While the surrounding lands are indeed a natural habitat for diverse wildlife lying within a 100-year floodplain, the impact of the tower would be negligible in almost any environment. The tower was to be built on three concrete piers with a foundation covering less than 500 square feet, although additional setbacks and fencing of the facility that were required by the city increased the footprint (see figure 4). From the city's records alone, it isn't possible to determine why TGMD chose not to exempt this project from the NFI process. NFI exemptions are typical for projects on disturbed land.

The Natural Features Inventory cost $999 in submission and review fees, not including the cost of conducting the inventory itself.

Step 5. ***Applicant submits a subdivision or site plan for approval.***

Tallahassee requires site plan approval for all projects except single-family homes, duplexes, triplexes, quadruplexes and commercial projects of less than 1,000 square feet. The site plan details every aspect of the project's construction. The size of the proposed development, intended land use, location and other factors determine the approving authority. Most commercial projects fall under the authority of the department that regulates the corresponding

industry. For instance, agricultural projects will usually be authorized by the Florida Department of Agriculture. In the case of D&F Communications' tower, the city's Development Review Committee (DRC) was responsible for reviewing the application.

Applicants and/or their representatives are required to attend the DRC meeting at which their projects are considered. In accordance with the City of Tallahassee Land Development Code, these meetings are administrative in nature and not subject to quasi-judicial provisions of the Florida Statutes. Thus, no testimony from applicants or members of the public may be received. An applicant must provide documentation that the project meets the criteria set by codes, regulations, and standards adopted by the city. The DRC may approve the application, approve it with conditions, or deny it. If the application is approved with conditions, the applicant must incorporate all changes the DRC has identified and submit revised copies of the site plan within 90 days. A 90-day extension may be granted by the land use administrator, but if the revised plans are not submitted within the specified time frame, then approval shall be deemed null and void.[35]

The main hurdles to the site plan approval and DRC review for D&F Communications were to be aspects of the project that the tower developers had thought were resolved months earlier when they obtained a Land Use Compliance Certificate (Step 2). Specifically, the commission requested a demonstration of economic need for telecommunications services in the area and an explanation for why the antenna could not be co-located. Although these issues had been addressed, and the tower's construction was within the bounds of Tallahassee's zoning and building ordinances, the project would not be confirmed without DRC approval.

Although the issues of economic need and co-location had been addressed, and the tower's construction was within the bounds of Tallahassee's zoning and building ordinances, the project would not be confirmed without DRC approval.

By the time the site plan stage of the permitting process began, six months had passed since the LUCC application was submitted to the city. The attorney for D&F Communications set up a meeting with the assistant city manager and the TGMD director in order to see what could be done to speed up the process. At this meeting, the applicants were asked to use a wide area tower search ring to determine whether existing antennas could be used instead of their proposed tower. This meant that D& F Communications would need to inspect every tower with an elevation exceeding 250 feet and architectural characteristics that could support the weight and wind load of the tower. By June 21, 2011, D&F Communications had completed its survey

[35] DRC decisions become final 30 days after they have been rendered, but an appeals process allows parties to file a petition for formal proceedings before the Tallahassee-Leon County Planning Commission in accordance with Chapter 2 of the City of Tallahassee Land Development Code. The petition must be filed within 30 days after the decision sought to be appealed is rendered, and should be delivered to the Planning Commission Attorney at City Hall. Failure to file the petition within the time specified therein will result in a waiver of the right to formal proceedings.

In addition to this appeals process, a developer or owner who believes a development order issued by the City is unreasonable or unfairly burdensome may file a request for relief pursuant to the City Commission Policy Number 414CP for Special Master Proceedings. Before an owner may seek relief under the act, however, any appellate proceedings available must be exhausted. This dispute resolution proceeding request must be filed within 30 days after the conclusion of appellate proceedings.

for alternative locations within 10 miles of the proposed facility. Upon submitting this report, the developers were informed that they would need to re-do the search ring and narrow the search area to three miles. On August 4, this second search was completed.

On August 8, 2011, D&F Communications received a phone call from a TGMD representative who requested that the tower be placed on city property. Moore declined this request, explaining that he intended his project to be a private enterprise with no government funding or involvement.

Ten days later, on the eighteenth, staff at D&F Communications were given an hour's notice, via telephone, for their meeting with the DRC. Several follow-up calls were needed to clarify the meeting was in fact scheduled for the following month. When the mandatory DRC meeting took place on September 26, 2011, city officials said that the project would be approved as soon as additional concurrency information was provided to show how storm water and flooding would be managed. Moore turned in the additional information two days later, on September 28, and was told all that was needed for approval was the signatures of the DRC board.

These signatures were given on October 10, 2011, 11 months after the initial inquiry with the city. D&F Communications paid a total of $3,693 in application and review fees in this step of the permitting process.

Step 6. ***Applicant applies for an Environmental Management Permit.***

After receiving a land use approval, developers must secure construction plans with an Environmental Management Permit (EMP) and a building permit. An Environmental Impact Analysis (EIA) must be conducted and submitted with the application for an EMP, unless an exemption is given. Once obtained, an EMP allows the developer to begin site work. EMPs are approved by the DRC, usually simultaneously with the site plan. The EMP must show how the developer plans to protect the trees on site, prevent erosion during construction, and avoid harming any wildlife, endangered or otherwise. An environmental permit is required when development activity exceeds 1,000 square feet of disturbed area. Projects that require less than 1,000 square feet can pursue a permit exemption, which must be posted at the job site. Fees to submit paperwork differ for disturbed and undisturbed areas and by the size of the project. The cost for a permit in disturbed areas is $557 for the first 5,000 square feet and $0.021 per additional square foot. For undisturbed areas, a permit will cost $977 for the first 5,000 square feet and $0.027 per square foot over that threshold.

Environmental concerns were raised by the city well before the EMP process began. On April 14, 2011, D&F Communications was informed that the tower's location could pose a risk to the herd of Asian water buffalo that Moore manages on his property. However, the physical environment that the animals inhabit would not be disturbed by the project, which was located on the opposite side of his property. An existing concrete barrier surrounds their roaming area, and an additional eight-foot-tall chain-link fence would surround the tower itself. D&F Communications was also informed by TGMD that the tower's proposed location on a floodplain would be problematic, and was advised to consult with a geotechnical company regarding this location before any pre-submittal process could start. The developers believed they had addressed these issues and requests prior to applying for the EMP.

D&F Communications initially qualified for a permit exemption since the project would take up far less than 1,000 square feet on already disturbed land. The application for this exemption incurred a fee of $155. However, city officials insisted that D&F Communications move the tower to the northwest side of the Antique Car Museum, somewhat nearer to the environmentally sensitive area. The project's perimeter was also expanded at the behest of city officials, making the tower ineligible for the exemption. The reasoning for these requested changes is unclear, and cannot be determined from incomplete correspondence records. However, it is clear from the developers' log that they believed TGMD was intentionally complicating the process in order to discourage construction. These changes expanded the footprint and took the project from an already disturbed setting to an environment that was less disturbed and required a more detailed EIA than originally necessary, leading to total EIA-related fees of $885.

However, city officials insisted that D&F Communications move the tower to the northwest side of the Antique Car Museum, somewhat nearer to the environmentally sensitive area.

D&F Communications submitted its application for an EMP on October 13, 2011. Nearly two weeks later, a growth management official informed Moore that the department would review the EIA and the EMP application during the upcoming week. However, review of the tower's EIA progressed slowly.

On November 8, 2011, the tower developers met with growth management officials and were told the DRC was opposed to the tower's new location, which it said posed irreparable problems. The developers were confused and discouraged by this resistance, but waited for the DRC's official reply. Three days later D&F Communications received a letter from the city specifying 22 concerns about the tower's environmental permit application. Six comments relating specifically to stormwater management were also included. After D&F Communications pointed out that stormwater management is a concurrency issue that is not addressed in the EMP process, TGMD officials removed the six additional comments.

The one-year anniversary of Moore's first contact with the city came and went on November 17, 2011.

On November 28, Moore received a phone call from TGMD, informing him that the comments concerning stormwater would need to be answered before the application could be reviewed, despite previously agreeing to remove them. On December 1, he set up a meeting with environmental consultancy firm McGlynn Labs to address the department's comments and any additional concerns that might arise throughout the review process. Over the next few weeks, additional questions were raised and answered, although many of them were not relevant to the environmental permit and had already been dealt with (i.e., concerns about electrical sources, storm water, public need, and location on a 100-year floodplain). Regarding the buffer wall, the materials to be used were changed from asphalt to more expensive granite. Although the buffer was only required by city ordinance to be 10 feet in radius from the tower, officials now required that it be at least 45 feet from the tower.

After TGMD's comments were answered, city officials approved the EIA on December 21, 2011, with additional conditions. A meeting to discuss these new conditions was arranged to take place the following day, but none of the city officials showed up at the specified time,

having left for Christmas break. Engineers working for D&F Communications coordinated with city officials to create a revised EIA that addressed TGMD concerns, and this EIA was submitted on December 28, 2011.

On January 9, 2012, after 15 calls and three trips to the TGMD offices, D&F Communications received a printed EMP approval from city officials.

Step 7. ***Applicant submits a final plat recording (for subdivisions).***

A final plat recording is necessary prior to applying for any building permits that require a subdivision of property. Final plat recordings must be approved by the Growth Management Department, the city engineer, Water Utilities and the City Commission. This approval is recorded in the public records of Leon County. D&F Communications's project did not require a subdivision of property, and so a final plat recording was not needed.

Step 8. ***Applicant applies for a building permit.***

To apply for a building permit, a developer must submit detailed plans for the building, including its structural, electrical, plumbing, and mechanical systems, to the city for approval. Separate permits are required for each system. Building permits are required for any new construction, additions, alterations, or even repairs that incur an estimated cost of labor and material greater than $1,000 and for work that is structural in nature. Structural alterations include building construction, as well as the replacement of windows and doors. Developments smaller than 20 acres require a $400 application fee. Developments between 21 and 50 acres cost $750. Developments over 51 acres in area cost $750 and then $10 per additional acre, with a $1,000 cap on fees.

A meeting to discuss these new conditions was arranged to take place the following day, but none of the city officials showed up at the specified time, having left for Christmas break.

After picking up the building permit application on January 16, 2012, Moore met with city building inspection officials on January 30 and January 31, in order to ensure that all required information regarding engineering, construction plans, and energy usage, among other things, was included and accounted for in the application. He submitted the building permit application on February 6 and was informed that the city could not accept it since his contractor license was issued by the county. Moore had undertaken several developments in the city of Tallahassee using his county-issued license and had received no indication that it was inadequate. After some discussion, Moore's license was considered valid for projects requiring city approval, and the application was processed.

On March 2, 2012, D&F Communications received the city's review of the building permit application, which included comments and questions. The three main concerns with the project were the elevation of the tower, the quality of the soil surrounding it, and the electrical site plan. On March 6, Moore provided the city building inspector with a detailed electrical site plan, which specified that the tower was to receive power from existing power panels on his property, along with a soils report and slight alterations to the tower's elevation.

Several telephone calls to check on the status of the application ensued before D&F Communications's permit was issued on March 26, 2012. Moore picked up the building permit for the telecoms tower on March 27, 489 days after he had first contacted the city and 258 days after obtaining an LUCC. The building permit application and review fees totaled $327.

Step 9. ***Applicant obtains a certificate of occupancy or completion*****.**

A city-issued certificate of occupancy or a certificate of completion is necessary before a newly constructed building can be occupied and used. Which certificate a project receives depends on how often the structure will be occupied by people. These certificates are issued when all construction is completed (based on construction plans embedded in the Land Use Compliance Certificate, Environmental Management Permit, building permit, and site plan) and all applicable fees have been paid. Electrical, gas, sewage, and any other additional permits required by the city must also be obtained before a certificate is authorized.

There is no documentation of a certificate of occupancy or completion for the D&F Communications project in the city's records. However, because these certificates are usually given not long after gas and electrical permits, which the company had, the certificate was likely provided around June 11, 2012.

Step 10. ***Applicant posts building permit on construction site*****.**

An affidavit indicating that a construction site has complied with all the relevant regulations must be posted on a sign at the job site. It must be electronically signed by a notary and then uploaded to the City Projects Review, along with a picture of the sign posted prominently on the physical location. This will constitute a substantially complete application. The deadline for completing all submittal requirements (including the signposting) is 10:00 a.m. on a DRC submittal day.

4. Conclusion

The lengthy permitting process experienced by D&F Communications appears to be typical for telecommunications towers in Tallahassee. In theory, the permitting process for local businesses and developers should reflect the policy priorities of the local community. It should be designed to maximize potential community benefits and minimize potential harms imposed on neighbors and the community as a whole. However, the case study presented in this report suggests regulators may have prolonged the permitting process without justification by a corresponding public benefit. The transaction costs created by such regulation have been shown to decrease private sector employment and economic growth. Overreach and a lack of coordination between different departments within the city government increased the time and resources tower developers must spend in the process while the benefits to the community were minimal, if they existed at all. A breakdown of economic justifications for regulation and their relevance to D&F Communications' tower is presented in table 1.

Tallahassee's land development code identifies aesthetic concerns and protection of residential areas as legitimate reasons for regulating telecommunications towers, and this appears to be the primary motivation for requiring developers to investigate co-location opportunities. Yet, the D&F Communications tower was isolated on rural land adjacent to an interstate highway (I-10) and commercial corridor (Mahan Drive). Thus, aesthetic justifications for delaying the project make little sense in this context. For other projects, the city's records occasionally include letters of complaint sent by nearby residents and a list of residents who were contacted about the construction project in accordance with city ordinances. While developers cited such protest as a major cause of delay, many of these projects were built anyway and there doesn't appear to be a significant difference in time spent in process for those projects whose public records include complaint letters.

Although other tower developers were not in complete agreement over the degree to which the regulatory process hinders development, all experienced similarly protracted dealings with city officials.

Many of the questions in the lead up to formal review reflected a lack of knowledge concerning tower construction at TGMD. Other queries were not grounded in the land use and public facilities mission and focus of the department and regulatory responsibilities. In other instances, TGMD created confusion through inadequate communication and coordination with the DRC. Although tower developers interviewed during this research disagreed over the degree to which Tallahassee's regulatory process hindered development, all indicated they experienced similarly protracted negotiation with city officials.

Table 1: Economic Justifications for Regulation

Would the proposed telecommunications tower...	**D&F Communications Tower**
…create, impose, or potentially create an uncompensated third-party impact or externality?	**NO**
…contribute to the monopolization of a service or industry?	**NO**
…be prevented from development because of high transaction costs?	**NO**
…be hindered by or take advantage of information asymmetries in the marketplace?	**NO**
…represent a public good, a product or service that only the public sector can provide?	**NO**

D&F Communications is not the only company to have been negatively affected by Tallahassee's regulatory process. An examination of the files for other projects puts the D&F Communications case in context. The time from submitting an application for a Land Use Compliance Certificate to obtaining a building permit averaged 274 days for the 29 telecommunications tower projects built between 1997 and 2011. A litany of fees, forms, and emails found in TGMD records suggest these other developers experienced a lengthy and uncertain process similar to that of D&F Communications. Conversations with other tower developers who have built in Tallahassee confirm this. Most were asked to provide evidence of a public need for telecoms services. Some developers sent letters to the department to remind it that the FCC has jurisdiction over matters of electromagnetic radiation standards, suggesting they felt the city was overstepping its authority. One developer initiated court proceedings to overturn a site plan denial by the Development Review Committee.

A litany of fees, forms, and emails found in TGMD records suggest these other developers experienced a lengthy and uncertain process similar to that of D&F Communications.

As previously mentioned, the city's records are incomplete in many cases. Some projects had little to no documentation, while others were missing only a few forms. No project had all the necessary forms attached. Some had detailed email and mail correspondences between the developer and city officials, while others lacked these entirely. Of the 29 tower projects that were permitted in Tallahassee in this time period, five case files lack documentation that they obtained an LUCC, fifteen are missing documentation of a concurrency certificate, fourteen are missing documentation of an NFI, nine are missing documentation of the site plan approval process, three are missing documentation of the EMP process, three are missing documentation of the building permit process, and eight lack documentation of a certificate of occupancy or completion. A few

of these projects may have obtained exemptions from parts of the process (which would explain missing documents), but frequently no evidence exists documenting these exemptions.

Without serving a beneficial social purpose, regulations may discourage productive economic activity, limit services to the public, and risk "regulatory capture." Changes should be made to this permitting process in order to reduce the amount of discretion afforded to regulators, improve record keeping by and coordination between government departments, and minimize the time necessary to secure the relevant permits.

A Path Forward?

Unfortunately, little academic attention has been given to regulatory reform on the state and local level in Florida. In a study of Florida's fiscal policy, Florida State University economist Randall Holcombe cites land use and licensing regulations as major inhibitors of the state's long-term economic growth.[36] Economists at the Mercatus Center at George Mason University examined Florida's state level occupational licensing process and identified two principles that might also be useful for regulatory reform at the local level, including business permitting.[37] First, prior to crafting a regulation, officials should determine whether a systemic problem exists and examine its causes. Second, regulators should consider the least restrictive solutions before settling on a course of action.

A few practical reforms could ensure regulators act in the public interest without creating unnecessary uncertainty and delay in the permitting process.

Tallahassee's permitting process for telecommunications towers appears to be an example of excessive discretion by regulators, and it fails to provide accountability for consistent and goal-oriented application of rules. A few practical reforms could ensure regulators act in the public interest without creating unnecessary uncertainty and delay in the permitting process.

1. *Expedite permits that do not pose a significant risk to public health or welfare*. Each project should be evaluated and scored based on its potential to threaten public health or welfare.[38] If these risks are low, projects should be put on an administrative compliance track where permits are checked for procedural compliance rather than deliberatively evaluated. Staff would scan submissions of reports to ensure compliance, but revisions would be restricted to bringing the permit into compliance with statute. Any substantive revisions should be grounded in a clear explanation of what tangible and measurable public harm or interest is to be addressed.

[36] Randall Holcombe, "Florida's Fiscal Policy: Responsible Budgeting in a Growing State" (Mercatus Working Paper, Mercatus Center, George Mason University, Arlington, VA, 2015), http://mercatus.org/sites/default/files/Holcombe_FloridaFiscalPolicy_v2.pdf.

[37] Patrick A. McLaughlin, Jerry Ellig, and Dima Yazji Shamoun, "Regulatory Reform in Florida: An Opportunity for Greater Competitiveness and Economic Efficiency" (Mercatus Working Paper, Mercatus Center, George Mason University, Arlington, VA, 2014), http://mercatus.org/sites/default/files/McLaughlin_RegulatoryReformFlorida_v1.pdf.

[38] See also Eric Claeys and Samuel R. Staley, "Is the Future of Development Regulation Based in the Past? Toward a Market-Oriented, Innovation Friendly Framework," *Journal of Urban Planning and Development*, vol. 131, no. 4 (December 2005): 202-213.

2. *Improve coordination among city regulators.* In many instances, concerns addressed by one department or regulating authority are subsequently raised by another. Such redundancies should be avoided by clearly delineating responsibilities between different government departments. Different regulatory authorities should utilize a common checklist of objectives drawn from local ordinances. Increased coordination would also help avoid complications that arise through deviations made by one department that conflict with another's objectives. Ideally, developers would deal with one regulator only. This simplification would greatly reduce the transaction costs that arise through interacting with multiple regulatory authorities.
3. *Simplify zoning ordinances to minimize regulatory discretion*. Frequent deviations from zoning and building ordinances suggest these rules are too restrictive. Regulators frequently allow exemptions from particular rules (setbacks, concurrency requirements, height limits, etc.) and even entire stages of the permitting process, generating significant uncertainty and allowing individual regulators to manipulate the approval process. At issue is the micromanagement of land use and land development through state and local planning. The planning and zoning ordinances should be simplified to focus on key objectives that use the public interest as a primary criterion for approvals. Regulatory discretion should be limited to those changes where an improvement in public welfare and interest can be demonstrated and measured.
4. *Improve record keeping of permits, related forms, and correspondences.* Without complete records the regulatory process's impacts and effectiveness in meeting public needs and goals is difficult to discern. Regulators should use electronic forms, rather than hardcopies, to better keep track of records. At the very least, forms should be scanned and uploaded to a public database immediately upon receipt. A more complete record can improve accountability and help the public determine the effectiveness of regulators.
5. *Ensure transparency and improve accountability by marking each permit with a date of submission and issue*. Each permit is marked denoting the day it was issued. Files, however, should also include a date denoting when the corresponding application was submitted. This additional field would allow far simpler oversight with regard to timeliness.
6. *Place the burden of proof for a public need on regulators rather than developers.* Regulators require applicants to show evidence of a need for telecoms service and inability to co-locate their towers with other service providers, which results in weeks or even months of delay. This is an inappropriate mandate because it presumes knowledge that does not exist. Innovation and entrepreneurship implicitly challenge the levels and quality of services provided by existing suppliers, and a permit process that requires proof of a need or demand for a service works contrary to the practical character of markets and to the innovations that transform these services. The burden of proof should instead lie with regulators to prove the absence of a public necessity for additional telecoms towers and services. It is not a government's responsibility to decide what kinds of developments are allowed or desirable in a community.

These policy recommendations can improve regulatory performance by removing discretion, increasing accountability, and strengthening property rights.

The policy recommendations above can improve regulatory performance by removing discretion, increasing accountability, and strengthening property rights. The best use of a property will change as preferences of business and residents change over time and local regulation should embrace this organic growth. In the absence of negative externalities or significant threats to public welfare, property owners should be allowed to pursue whatever land uses they prefer. As new and innovative uses of land arise and become economically viable, entrepreneurs should not be hindered by an outmoded regulatory regime. This is all the more evident in today's rapidly changing society, where technological innovations, telecommunications among them, are creating new landscapes of urban environments. If the city of Tallahassee intends to attract investment, it needs a regulatory regime fit for the twenty-first century.

Appendix A:
Summary of Telecommunications Tower Projects in Tallahassee between 1997 and 2011

Tower Location	Final Status	Year Begun	Fees	Tower Value	Flood Zone	Total Days
3660 Orange Ave.	Built	1997	$ 6,069.40	No record	NO	274
1203 Governor's Square Blvd.	Built	1997	$ 972.00	$ 40,000.00	NO	No record
2230 Mill St.	Built	1998	$ 136.20	$ 98,000.00	NO	130
2302 Jim Lee Rd.	Built	1998	$ 4,593.52	$ 30,000.00	NO	281
4300 N. Meridian Rd.	Not Built	1998	$ 1,910.00	$ 30,000.00	NO	140
801 Lake Bradford Rd.	Built	1998	$ 267.54	$ 75,000.00	YES	266
3563 Timberlane School Rd.	Built	1999	$ 160.00	$ 5,000.00	NO	326
1710 Capital Cir. SE	Built	1999	$ 87.00	$ 100,000.00	NO	219
2530 W. Tharpe St.	Built	1999	$ 1,551.50	$ 125,000.00	YES	317
459 All Saints St.	Built	1999	$ 1,218.79	$ 40,000.00	NO	694
1939 Buford Blvd.	Built	2000	$ 1,017.00	$ 5,000.00	NO	79
140 Four Points Way	Built	2000	$ 5,020.71	$ 5,000.00	NO	69
1700 High Rd.	Built	2000	$ 6,441.00	$ 5,000.00	NO	189
3227 Capital Cir. SW	Built	2000	$ 110.00	$ 120,000.00	NO	530
1819 Thomasville Rd.	Built	2000	$ 1,017.00	$ 19,544.00	NO	7
1350 Paul Russell Rd.	Built	2000	$ 1,065.40	$ 5,000.00	NO	373
2199 N. Monroe St.	Built	2000	$ 285.00	$ 40,000.00	NO	53
2516 W. Tharpe St.	Built	2000	$ 5,592.97	$ 65,000.00	YES	216
991 Appleyard Dr.	Built	2001	$ 1,583.00	$ 75,000.00	NO	175
2610 Care Dr.	Not Built	2002	$ 85.20	$ 25,000.00	NO	63
2900 N. Monroe St.	Not Built	2003	$ 1,078.00	$ 80,000.00	NO	328
2145 W. Pensacola St.	Not Built	2003	No record	$ 120,000.00	NO	365
5620 Roanoke Trl.	Built	2004	$ 264.80	$ 12,000.00	NO	316
5620 Roanoke Trl.	Built	2004	$ 2,727.00	$ 160,000.00	NO	331
270 Columbia Dr.	Built	2005	$ 400.05	$ 150,000.00	NO	688
4065 Esplanade Way	Built	2006	$ 1,747.34	$ 120,000.00	NO	53
1204 Myers Park Dr.	Built	2008	$ 2,126.53	$ 250,000.00	NO	462
2098 Paul Dirac Rd.	Not Built	2008	$ 168.88	$ 94,650.00	NO	254
6800 Mahan Dr.	Built	2011	$ 1,102.18	$ 68,000.00	NO	258

About the Authors

Samuel R. Staley, Ph.D. is director of the DeVoe L. Moore Center at Florida State University where he also teaches courses in urban economics, urban policy and economic development planning. He is the author of five books on urban policy, and his research and policy analysis has appeared in leading academic journals including *The Journal of the American Planning Association*, *Town Planning Review*, *Housing Policy Debate*, the *Journal of Urban Planning and Development*, *Transportation Research Part A*, and the *Journal of Transportation Engineering*.

Matthew Kelly is a policy analyst and blog content manager for the DeVoe L. Moore Center. He earned his B.S. in economics from Florida State University.

Acknowledgements

This study benefited greatly from the research assistance of Tyler Worthington, Nathan Scott and Colin Harris. The authors gratefully acknowledge the cooperation of DeVoe L. Moore in providing access to meeting notes and timelines, as well as two academic reviewers for independent comments and suggestions. This report was not reviewed by Mr. Moore prior to its publication.

Selected Policy Analysis and Impact

2016

- "Occupational Licensing in Florida: Unnecessary Licenses Are Killing Jobs," Policy Brief No. 131 (co-published with Reason Foundation, February)
- Testimony before the Florida Senate Committee on Regulated Industries (February)

2015

- "Shopping Center Permit Approvals and Delays: The Case of Tallahassee," Policy Report (May)
- Perspectives on public pension reform (May), Uber and local regulation (April), occupational licensing (March), sports stadium subsidies (March)
- Testimony before the Florida House Economic Affairs Committee (April)
- Commentary on film tax credits, *Tampa Tribune* (February)
- Commentary on sports stadium subsidies, *Tallahassee Democrat* (February)

2014

- Commentary on occupational licensing and work opportunities, *Tallahassee Democrat* (December)
- "Entrepreneurship and Civil Rights: Then and Now," lecture by FAMU professor David Jackson (November)
- Critical Issues Symposium on current issues in housing finance (April)
- Policy Brief (No. 34) on Florida's Regional Planning Councils (April)
- Critical Issues Symposium on regulation in the states (February)
- Policy Brief (No. 33) on constitutionally mandated land purchases (January)
- Commentary on capitalism and democracy, *Tallahassee Democrat* (January)

Recent Academic Research and Analysis

- "The Variance in Foreclosure Spillovers across Neighborhood Types," *Public Finance Review*, 2016
- "The Role of Representative Agents in the Property Tax Appeals Process," *National Tax Journal* (2015)
- "Housing Bubbles and Busts: The Role of Supply Elasticity," *Land Economics* (2014)
- "Modeling Travel Mode Choice Behavior of a New High-Speed Rail Corridor in China," *Transportation Planning and Technology* (2014)
- "The Millage Rate Offset and Property Tax Revenue Stability," *Regional Science and Urban Economics* (2014)
- "Determining the Reasonable Scale of a Toll Highway Network in China," *Journal of Transportation Engineering* (2014)
- "The Variance in Foreclosure Spillovers Across Neighborhood Types," *Public Finance Review* (2014)
- "Promoting Sustainable Land Patterns Through Development Impact Fee Programs," *Cityscape: A Journal of Policy Development and Research* (2013)
- "Study of Modal Shifts to Bus Rapid Transit in Chinese Cities," *Journal of Transportation Engineering* (2013)
- "Local Government Structure and the Quality of Minority Neighborhoods," *Public Choice* (2011)
- "The Effects of State Smart Growth Management Programs on Transportation Options," in *Assessing Smart Growth Policies in the United States*, Lincoln Institute of Land Policy (2011)
- "State of Florida Growth Management Summary," in *Assessing Smart Growth Policies in the United States*, Lincoln Institute of Land Policy (2011)
- "Crime and Housing Prices," in *Handbook on the Economics of Crime*, Edward Elgar Publishing (2010)
- "Does Comprehensive Land Use Planning Improve Cities?" *Land Economics* (2009)
- "Development Impact Fees and Employment," *Regional Science and Urban Economics* (2009)
- "The Regulatory Tax and House Price Appreciation in Florida," *Journal of Housing Economics* (2009)
- "The Incidence of the Land Use Regulatory Tax," *Real Estate Economics* (2009)
- "Price Discrimination in the Housing Market," *Journal of Urban Economics* (2009)