

# Fifth Generation Broadband: Municipal Strategies


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MARCH 2, 2020



# Overview

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1. Status of Fifth Generation Broadband
  2. Who's in Charge?
  3. Regulatory Options Available
  4. Economic, Environmental, Public Safety Considerations
  5. Design Considerations
  6. Review of Alternative Strategies
  7. A Process Approach to Managing 5G
  8. Other Considerations
  9. Benefits of a Regional Approach
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# FCC Broadband Mandates

Expanded Density of Coverage for Broadband

Reduced Latency Periods for Data Upload and Downloads

Increased Use of Higher Radio Frequency Bandwidths

Restrictions on State and Local Government Oversight of Broadband Expansions

# Who's in Charge?

Key Players in 5G Deployment	Authority	Primary Role
Federal Communications Commission	47 USC 332	Licenses RF Spectrum, Broadband licenses, Safety
National Telecom & Info. Admin.	P.L. 102-538	Licenses Federal RF Spectrum, Internatl. negotiations
Public Utility Regulatory Authority	16-235 CGS	Regulates placement of antennas on utility poles
Connecticut Siting Council	16-50gg CGS	Regulates Antennas on Towers and Buildings
State Historic Preservation Office	54 USC 300101	Sect. 106 Reviews of Federal permits/funding
CT Department of Transportation	13b-17 CGS	State Road Encroachment Permits
Municipal Public Works/Engineering	7-148(c)6	Local Road Encroachment Permits
Municipal Zoning	8-2 CGS	Guidance on Viewsheds; Design Districts; Non-CSC sites
Local Historic Districts	7-147c CGS	Regulate SWF in "Areas of Potential Effect"
Local Building Departments	29-260 CGS	Regulates Bldg. Electric/Plumbing/Construction
Tree Warden	23-59 CGS	Regulates Tree Pruning/Cutting/Planting
Municipal Chief Elected Officials	7-163c	Municipal Telecommunications Plan
Municipal government	16-233	Use of Public Utility Poles or below ground duct system

# What Options are Available to Municipalities

Zoning Ordinance – to  
control Land Use  
Impacts

Municipal Ordinance –  
to control a wide range  
of fiscal, administrative,  
and policy issues

Design & Historic  
Preservation Guidelines  
– to protect community  
& historic character

Environmental  
Assessment – to address  
sensitive and protected  
environmental  
resources

License Agreement – to  
manage bilateral  
responsibilities with  
Broadband services

Do Nothing – to avoid  
the “bleeding edge” of  
over-responsive  
strategies

# Economic, Environmental, Safety Issues



Economic Argument for 5G: Higher Capacity Broadband Drives Modern Industry



Environmental Argument for 5G: With some exceptions, limited Impacts to the Environment



Safety Argument for 5G: Increased Public Safety and Emergency Response Capabilities



Economic Argument Against 5G: Limited Emphasis on Rural/Suburban Deployment



Environmental Argument Against 5G: Potential Adverse Impacts to Community Character



Safety Argument Against 5G: Concerns for Long Term Human Exposure to 5G

# Design Considerations

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Western Connecticut has some of the most sophisticated design and community character standards in New England. Small Wireless Facilities (SWF) will have varied Impacts on:

Design of  
Municipally Owned  
Poles

Design and Use of  
Decorative Poles

Street Corner  
Designs and  
Intersection Layout  
Plans

Appearance of  
Municipal Buildings  
Currently Used for  
Broadband

The Region's 85  
Historic Districts  
and 35 Village  
Districts

Community  
Character Outside  
of Design/Historic  
Districts

Tree Canopies in  
Urban Landscapes

# Review of Alternative Strategies

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## ZONING ORDINANCE VERSUS MUNICIPAL ORDINANCE

### A SELECTIVE COMPARISON OF ADVANTAGES/DISADVANTAGES

Issue	Zoning Ordinance	Municipal Ordinance
Manage Multiple Permits	No	Yes
Manage co-located SWF	Yes	Yes
Coordinate Multiple Providers	No	Yes
Guide SWF Siting Decisions	Yes	Yes
Pole License Agreements	No	Yes
SWF Location Preference Standards	Yes	Yes
Unified Fees for all Permits	No	Yes
Street Tree Canopy Impacts	Yes	Yes



# Review of Alternative Strategies

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## LICENSE AGREEMENT VERSUS MUNICIPAL ORDINANCE

### A SELECTIVE COMPARISON OF ADVANTAGES/DISADVANTAGES

Issue	License Agreement	Municipal Ordinance
Manage Multiple Permits	Yes	Yes
Manage co-located SWF	Yes	Yes
Coordinate Multiple Providers	No	Yes
Guide SWF Siting Decisions	Yes	Yes
Pole License Agreements	Yes	Yes
SWF Location Preference Standards	Yes	Yes
Unified Fees for all Permits	Yes	Yes
Bilateral Coordination of SWF Issues	Yes	No
Ability to Transfer SWF Ownership	Yes	No

# Review of Alternative Strategies

HISTORIC DISTRICT ORDINANCE VERSUS FCC ENVIRONMENTAL ASSESSMENTS

A SELECTIVE COMPARISON OF ADVANTAGES/DISADVANTAGES

Issue	Historic District Ordinance	FCC Environmental Assessment
Viewshed Analysis	Yes	Yes
Design Standards for Municipal Poles	Yes	No
Public Input on SWF Installations	Yes	Yes
Guide SWF Siting Decisions	Yes	No
Design Standards for SWF on Buildings	Yes	No
SWF Location Preference Standards	Yes	No
Design for SWF on Bldgs. near Historic District	Yes	No
Reviews radio frequency exposures	No	Yes



Inventory Location of Existing Municipal Broadband Installations



Inventory Ownership of Utility and Decorative Poles and other Installation Locations



Review Zoning Regulations to Identify Legal Obstacles to 5G Deployment



Review Fee Schedules for permits/licenses for consistency with FCC standards



Evaluate Priority Deployment Locations by Municipality



Determine Level of Efforts to Manage 5G Deployment based on alternative strategies



Obtain public input on the 5G Strategy suitable for each municipality



Adopt Portfolio of Strategies to Achieve Municipal 5G Objectives

# A Process Approach to Managing 5G

# Other Considerations



**Technical Assistance:** OPM is mandated to provide technical assistance to municipalities on 5G



**Litigation:** Federal Litigation in the Ninth Circuit Court may alter 5G Deployment Strategies



**Health Concerns:** FCC Radio Frequency Exposure Regs. may have unintended consequences



**5G Speed:** Deployment of 5G Broadband Services is not limited to GHz wavelengths



**Urban v. Rural:** Strategies that Work for Urban Areas not Likely to be the same as Rural Areas



**Public Expectations:** False Expectations are Emerging on the Speed of 5G Internet Services



**Other Regulators:** CT Siting Council & Public Utility Regulatory Authority have Expanding Roles



**Municipal Ownership of Fiber Optic Services – CT Superior Court Decision November 12, 2019**

# Benefits of a Regional Approach

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A Regional Approach Assumes all Decisions are Made at the Municipal level based on:

A Comprehensive Assessment of the Costs/Benefits of the Leading Strategies

Pooled resources to maximize benefits of a regional review, analysis & recommendations of 5G Strategies

Leveraging WESTCOG staff resources to facilitate improved local decision making

Access to a wide range of regulatory and technical resources relevant to the Task Force

Opportunities to standardize strategies to facilitate a more consistent and coordinated approach to economic development, protection of community character and public health

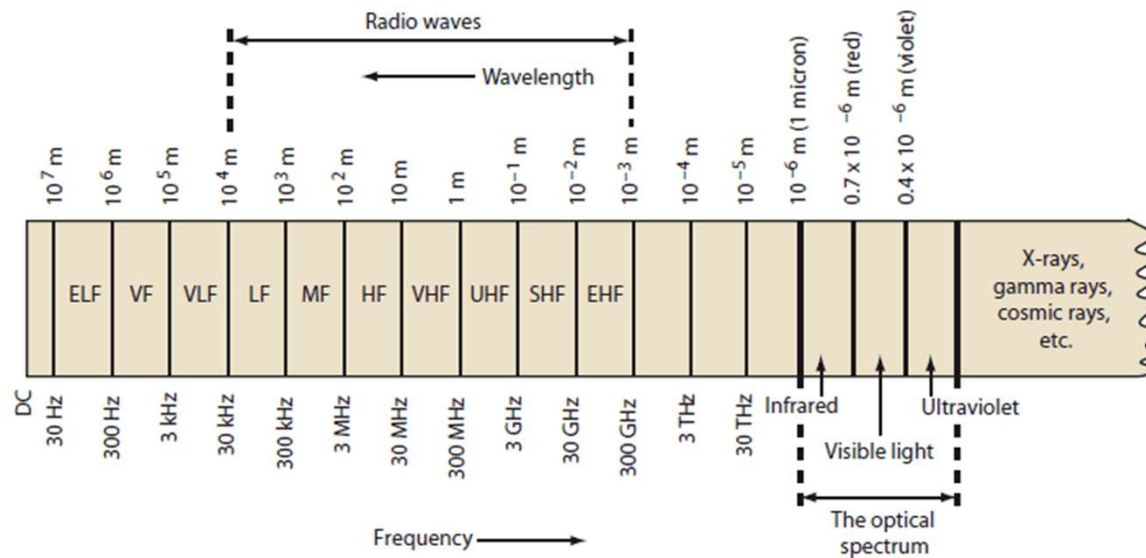
A clear & uniform process for installers to follow, reducing the complexity, cost and timeline for deployment

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Questions?



# Radio Frequency Wavelengths



1. The electromagnetic frequency spectrum ranges from dc to light. The lower radio frequencies are designated mainly by frequency. The optical ranges are referred to by wavelength.