



Broadcaster Repacking Proposal

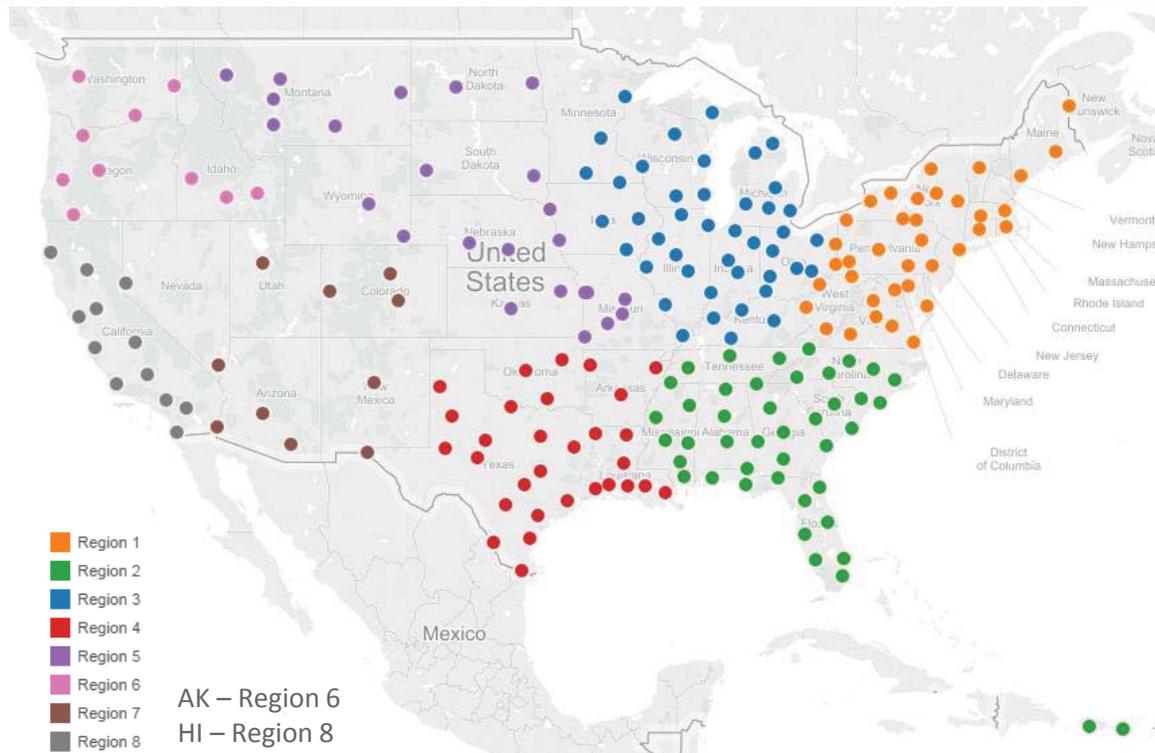
April 12, 2016

T-Mobile's Proposal: Eight Region Clearing

1. Divide the US into eight geographic regions of interrelated broadcasters.
2. Create multiple parallel streams for repacking and clearing in each region (tranches), starting at a corner in each region.
3. Transition broadcasters to their new channel assignments based on their region and tranche.

Net Result – an efficient clearing process that balances urban and rural market clearing in an objective and reasonable manner to clear spectrum as quickly as possible.

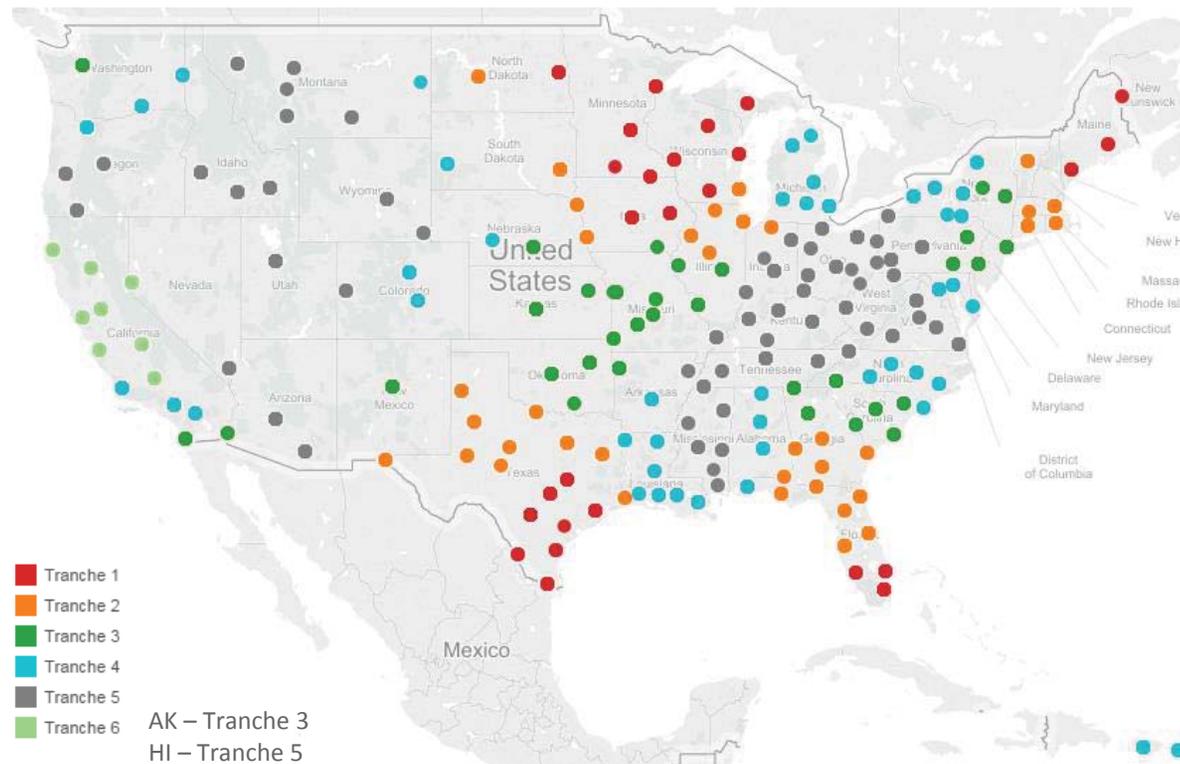
Step 1 – Group Broadcaster DMAs into Regions



- Group 213 DMAs into one of eight regions.
- Stations then assigned to regions based on their DMA.

Note – Some stations are collocated on a tower but are in different DMAs. This situation will require a station-specific determination.

Step 2 – Group DMAs into Clearing Tranches



- Group each of the 213 DMAs into one of six clearing tranches.
- A DMA's tranche selection would be based on several factors:
 1. The total number of stations in a given region;
 2. The FCC's 2014 simulation data on the number of stations that need to be repacked;
 3. The ability to untangle pairwise interference daisy chains; and
 4. The potential for a border station to induce delays

Step 3 – Repack Broadcasters Regionally

- Broadcasters in each tranche transition by a specific deadline
 - For example, all or most of the broadcasters in Tranche 1 should transition to their new channel assignment by a date certain.
- The FCC should permit the use of temporary facilities, if desired by broadcaster
 - Must-carry and retransmission rights should be protected even if the service contour for broadcasters in transition are temporarily reduced.
- Tranche construction windows should provide both warm and cool weather periods
 - For example, the construction window for each tranche could span a six-month period of time from January – July and July – December.
- Waivers as needed for delayed stations in each tranche deadline, instead of at end of the 39-month repacking process

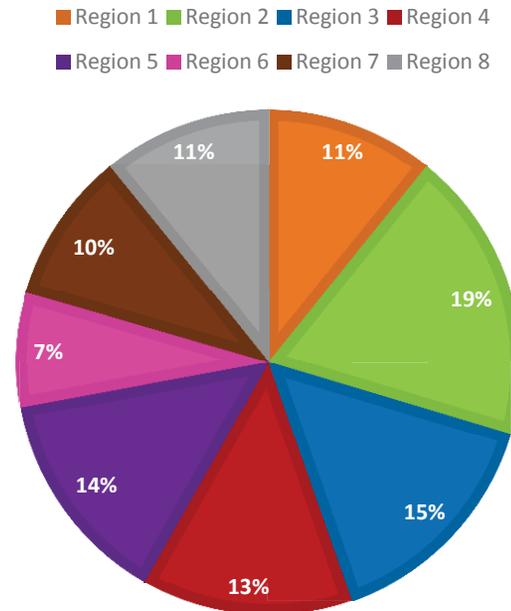


Key Statistics of T-Mobile Repacking Proposal

Tranches Sized Proportionally to Regional Clearing Needs

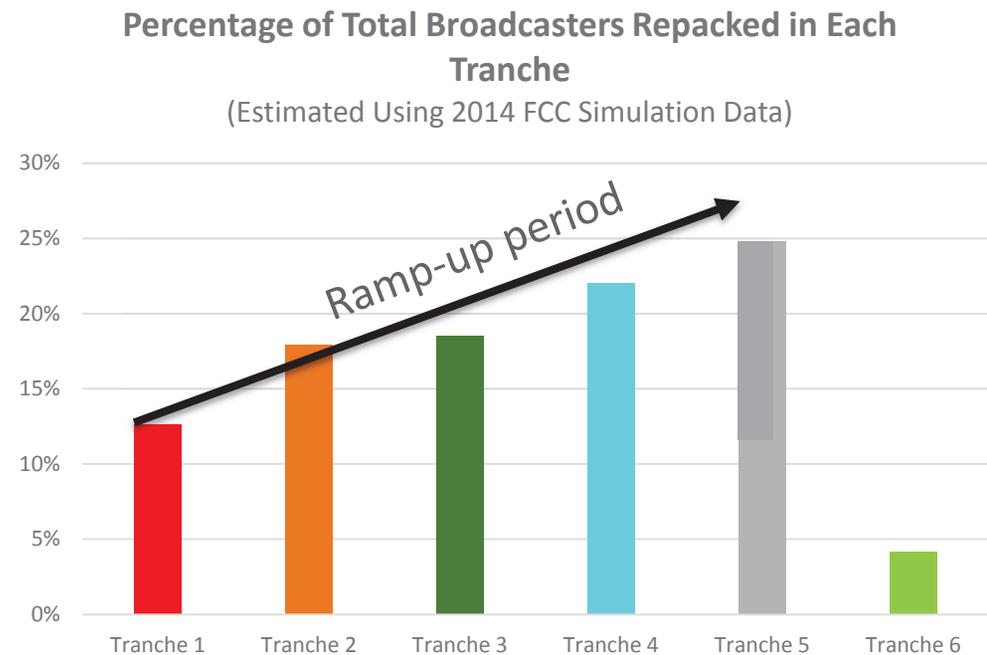
- Regions 2, 3, and 5 will likely have the largest number of broadcasters needing repacking, collectively making up almost 50% of all repacked stations.
- The tranches are weighted to transitioning more DMAs/stations in those regions earlier in the process.

Repacked Station Distribution by Region
(Estimated Using Average of 2014 FCC Simulation Data)



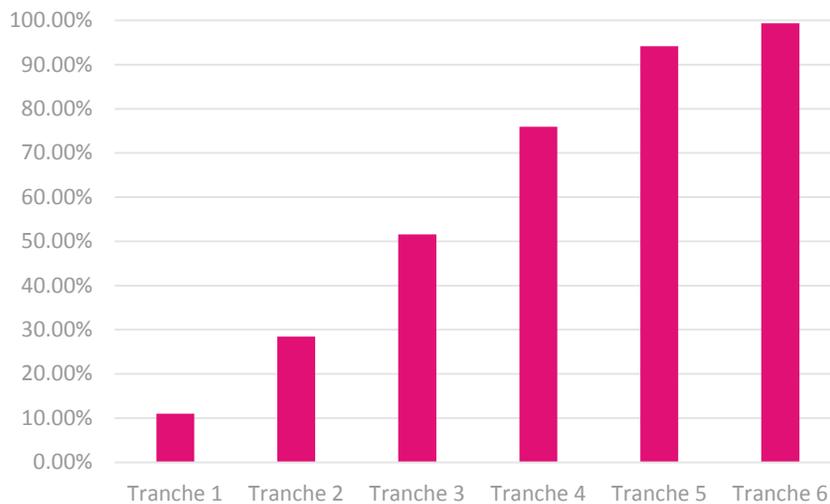
Tranches Sized for Ramp-Up

- Tranches start small and gradually grow in the number of stations repacked.
- Tranche 6 gives flexibility should delays occur in earlier tranches.

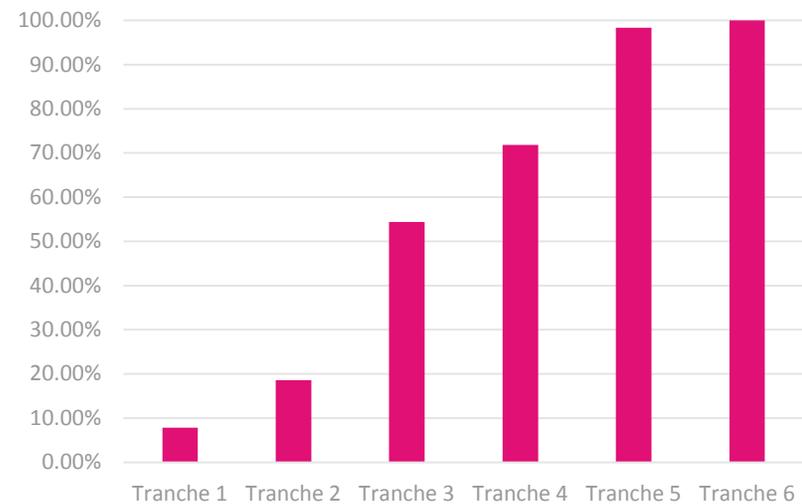


More PEAs for Mobile Service

Percentage of Population Cleared

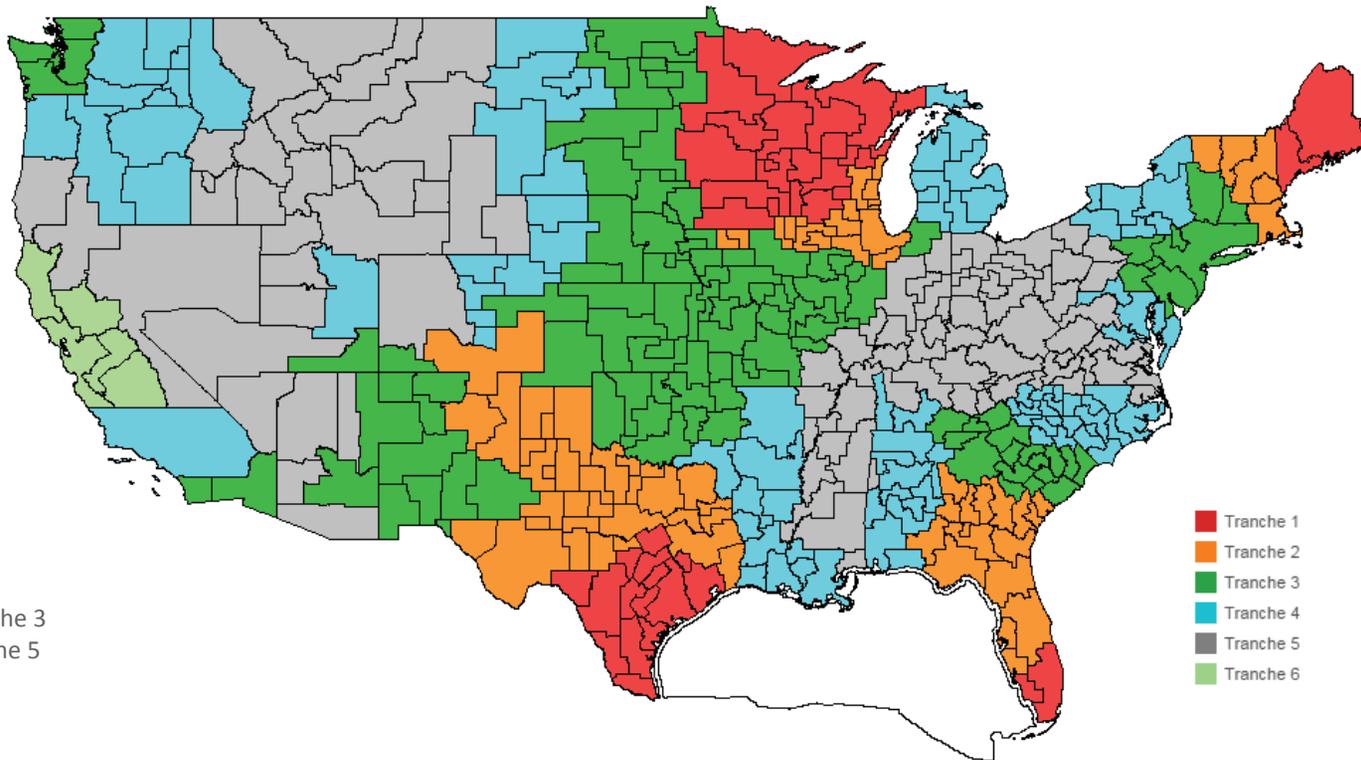


Percentage of Square Mileage Cleared



Balanced Benefit – By Tranche 3, more than 50% of the US population and square mileage cleared for mobile services while likely transitioning less than 50% of the repacked broadcasters.

PEAs Cleared by Tranche



Note – This is an estimate of the timing for clearing a majority of the transitioned broadcasters in each PEA. A full OET-74 analysis would be required to provide a site-specific clearing analysis in each PEA.

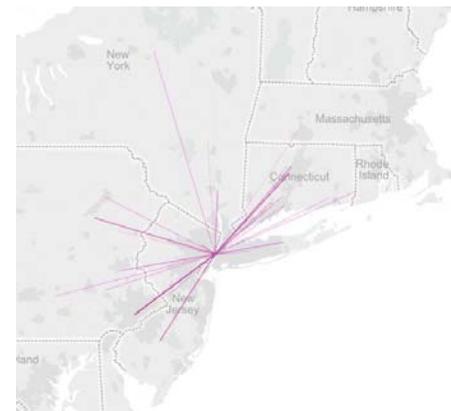
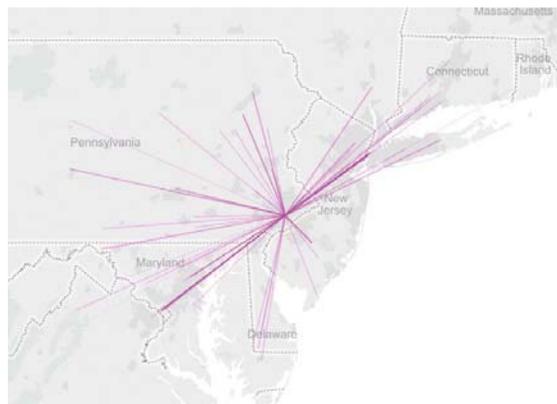
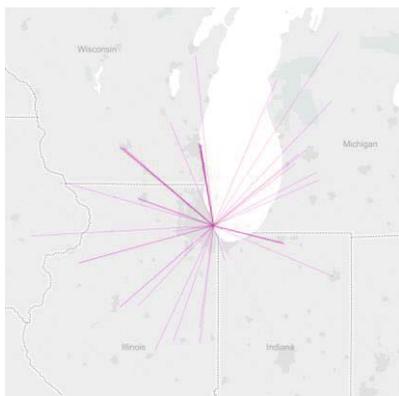
T-Mobile

Major Markets First Will Delay Repacking

Prioritizing Big Urban Markets is Inefficient

- Many of the largest markets in the US have highly interrelated TV broadcast networks (“daisy chains”)
 - Boston to Richmond; Pittsburgh to Chicago; Minneapolis to New Orleans; Los Angeles to San Francisco.
- Clearing the largest urban markets would lead to a delayed repacking process that would likely exceed the 39-month deadline
 - It is impossible to clear the largest PEAs in compliance with the OET-74 interference protection criteria without repacking adjacent TV markets.
 - Repacking large markets first would repeat the DTV process.

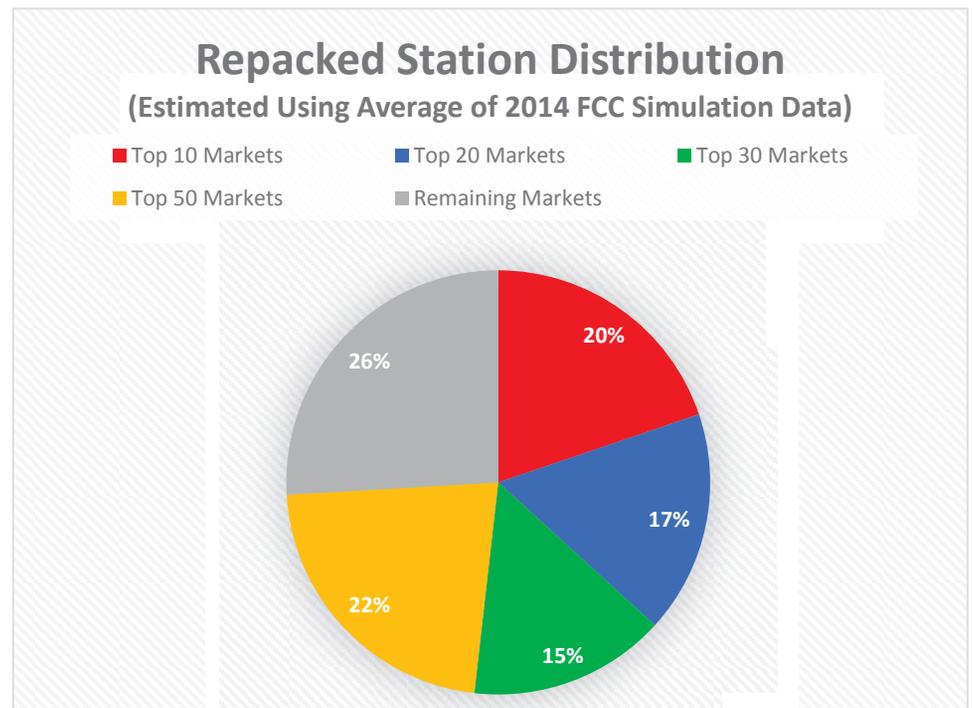
Examples of Pairwise Interference: Chicago, Philadelphia and NYC Markets



- To clear urban PEAs such as Chicago, Philadelphia and NYC the FCC will need to not only repack the broadcasters in these PEAs, but also clear markets that are several hops away in many instances.
 - To clear the Chicago PEA, it will be necessary to repack broadcasters in Chicago, Milwaukee, Green Bay and Rockford.
 - To clear the Philadelphia PEA, it will be necessary to repack broadcasters in Philly, NYC, Baltimore, and DC.
 - To clear the New York City PEA, it will be necessary to repack broadcasters in NYC, Philly, Harford and Albany.
- This creates a chain-reaction need to repack multiple TV markets to clear just the single major-market PEA.

Repacking Many Broadcasters Early in the Process

- Clearing the Top 30 markets requires repacking more than half (52%) of broadcasters.
- The entire clearing process hinges on clearing some of the most difficult markets (*e.g.*, NYC, Chicago, San Francisco)

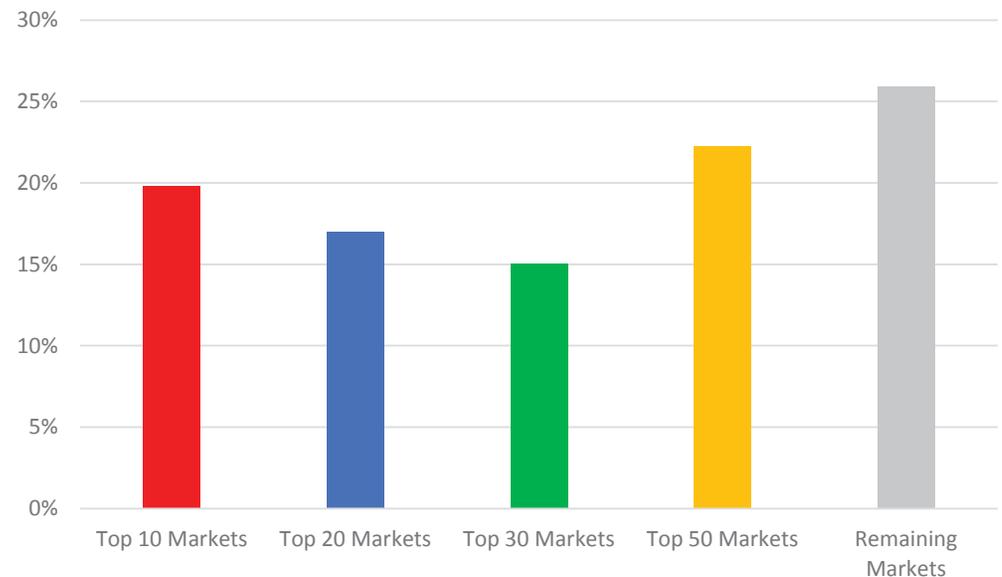


No Ramp-Up Time for Repacking

- No ramp-up time for broadcast industry to accommodate transition of broadcasters.
- The repacking process slows down over time.
- Massive crush of repacking work left at the end of the timeline.

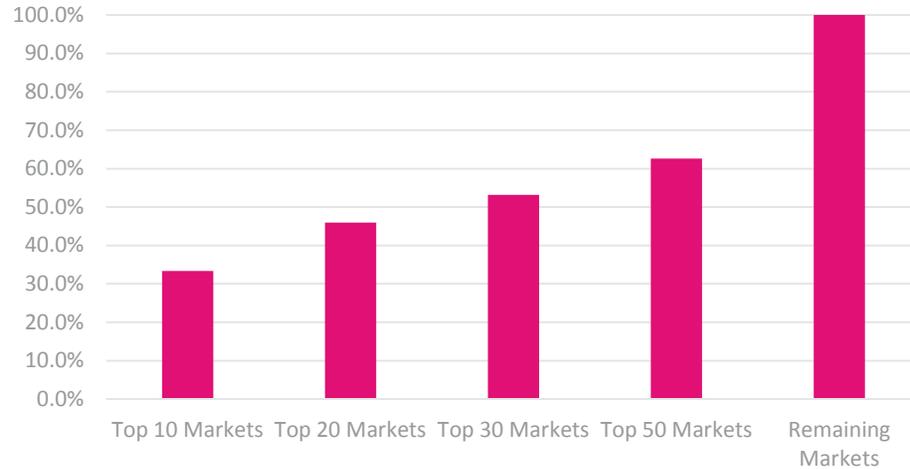
Percent of Total Broadcasters Repacked

(Estimated Using 2014 FCC Simulation Data)

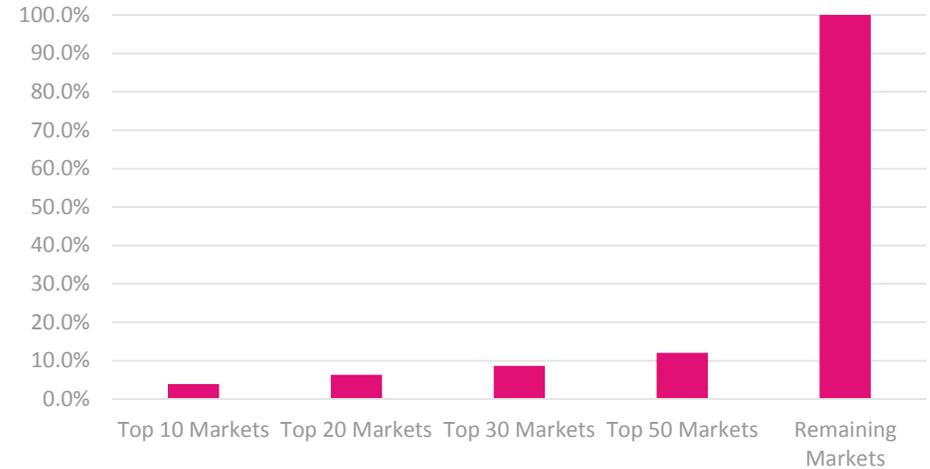


Rural America is Left Behind

Percent of Population Cleared



Percent of Square Mileage Cleared



Unbalanced Benefit – Focusing on the Top 30 markets clears less than 10% of US square mileage; many uncleared areas will be among those most in need of broadband service.