



**DLA Piper LLP (US)**  
500 Eighth Street, NW  
Washington, DC 20004  
www.dlapiper.com

Nancy Victory  
nancy.victory@dlapiper.com  
T 202.799.4216  
F 202.799.5616

March 8, 2019  
VIA ECFS

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Washington, DC 20554

**REDACTED – FOR PUBLIC INSPECTION**

**Re: Notification of Oral *Ex Parte* Presentation  
Applications of T-Mobile US, Inc. and Sprint Corporation for Consent to Transfer  
Control of Licenses and Authorizations; WT Docket No. 18-197**

Dear Ms. Dortch:

Pursuant to Section 1.1206(b) of the Commission's Rules, 47 C.F.R. § 1.1206(b), notice is hereby provided of an oral *ex parte* communication in the above-captioned docket. On March 6, 2019, Mark McDiarmid, Senior Vice President, Radio Network Engineering and Development, Ankur Kapoor, Vice President, Network Technology of T-Mobile US, Inc. ("T-Mobile") and other representatives of T-Mobile and Sprint Corporation ("Sprint")<sup>1</sup> met with members of the FCC Transaction Team (a list of FCC participants is provided in Attachment A).

During the meeting, the Applicants discussed the attached presentation that provides additional details about the *ex parte* presentation filed on February 21, 2019 regarding the plans for combining the T-Mobile US, Inc. and Sprint Corporation networks during the 2019 to 2021

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<sup>1</sup> Those representatives included Kathleen O'Brien Ham and Steve Sharkey of T-Mobile, Reinhard Wieck of Deutsche Telecom, Inc., Nancy Victory and Thomas Dombrowsky of DLA Piper LLP, George Cary and Daniel Culley of Cleary Gottlieb Steen & Hamilton, LLP, Joshua Soven of Wilson Sonsini, Tom Peters of Hogan Lovells US LLP, Charles McKee of Sprint, Richard Metzger of Lawler, Metzger, Keeney & Logan, LLC, Matthew Hendrickson of Skadden, Arps, Slate, Meagher & Flom LLP, David Meyer of Morrison & Foerster LLP and Bryan Keating of Compass Lexecon.



Marlene H. Dortch  
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timeframe that immediately follows the merger of the two companies.<sup>2</sup> Specifically, the Applicants discussed how the three-year network migration process was designed to minimize customer disruption and provide superior user experience at all stages of the migration. The Applicants also demonstrated that the combination of the two companies' assets would drive down the cost of capacity and coverage by making more efficient use of existing spectrum and other network assets. Finally, the Applicants explained that expanded roaming functionality would be nearly immediately available to Sprint subscribers with LTE and VoLTE compatible devices and performance challenges—providing a performance improvement for such customers. T-Mobile was also asked to provide copies of the referenced Board documents referenced in the presentation deck; these are included on the attached disk.

This filing contains information that is “Highly Confidential” pursuant to the Protective Order filed in WT Docket No. 18-197. Accordingly, pursuant to the procedures set forth in the Protective Order, a copy of the filing is being provided to the Secretary’s Office. In addition, two copies of the Highly Confidential Filing are being delivered to Kathy Harris, Wireless Telecommunications Bureau. A copy of the Redacted Highly Confidential Filing is being filed electronically through the Commission’s Electronic Comment Filing System.

Please direct any questions regarding the foregoing to the undersigned.

Respectfully submitted,

**DLA Piper LLP (US)**

*/s/ Nancy J. Victory*

Nancy J. Victory  
Partner

NV

cc: Kathy Harris  
Linda Ray  
Kate Matraves  
Jim Bird  
David Krech

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<sup>2</sup> Letter from Nancy J. Victory, Counsel to T-Mobile US, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 18-197 (Feb. 21, 2019).

**ATTACHMENT A**

**LIST OF FCC PARTICIPANTS**

David Lawrence  
Charles Mathias  
Catherine Matraves  
Ronald Repasi  
Saurbh Chhabra  
Matthew Collins  
Robert Pavlak  
Ziad Sleem  
Thuy Tran  
Weiren Wang  
Murtaza Nasafi  
David Sieradzki  
Aleks Yankelevich  
Marcus Maher  
Chris Smeenk  
Max Staloff  
Joel Rabinovitz  
Kirk Arner  
Pramesh Jobanputra

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**ATTACHMENT B**  
**PRESENTATION DECK**

# New T-Mobile Network Migration Overview



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# Agenda

## Network Migration

### 2019 – 2021 Migration Plan

# 3-year network migration and migration process designed for lowest risk path to synergies

## Migration Process Principles

### Build Integrated Capacity

- Anchor on T-Mobile network for speed of deployment
- Build Core & Radio capacity for incoming & organic growth
- Add spectrum to T-Mobile sites & densify with Keep sites

### Optimize Customers & Network Flow

- Integrate market customers & supply maximizing Quality
- Use MOCN to reach all customers at all stages
- Support natural flow & migrate with optimal synergy

### Protect all Customer Experience

- First migrate customers with compatible phones
- Modernize Sprint non-compatible phones over time
- Keep CDMA network operational until migration completed

## Benefits and Timing

- **Minimum disruption** to existing customers
- **Superior experience** for all Customers at all migration stages
- **Best-in-class** 4G & 5G network offering and experience
- Aggressively **migrate customers** from legacy technologies to 5G
- **Maximize synergy benefits** through timely and efficient execution

# Excellent experience for all customers at all migration stages

## All Sprint Subscribers Considered



- Better experience for subscribers on Sprint network YoY
- CDMA and LTE footprint maintained
- Migrated subscribers see significant improvement

## T-Mobile Experience Improved During Migration



- Migration rates match Integrated Network Capacity
- In-flight T-Mobile capacity projects address key areas
- T-Mobile subscribers benefit from additional spectrum re-farmed supply

## New T-Mobile Delivers Transformed Experience for All

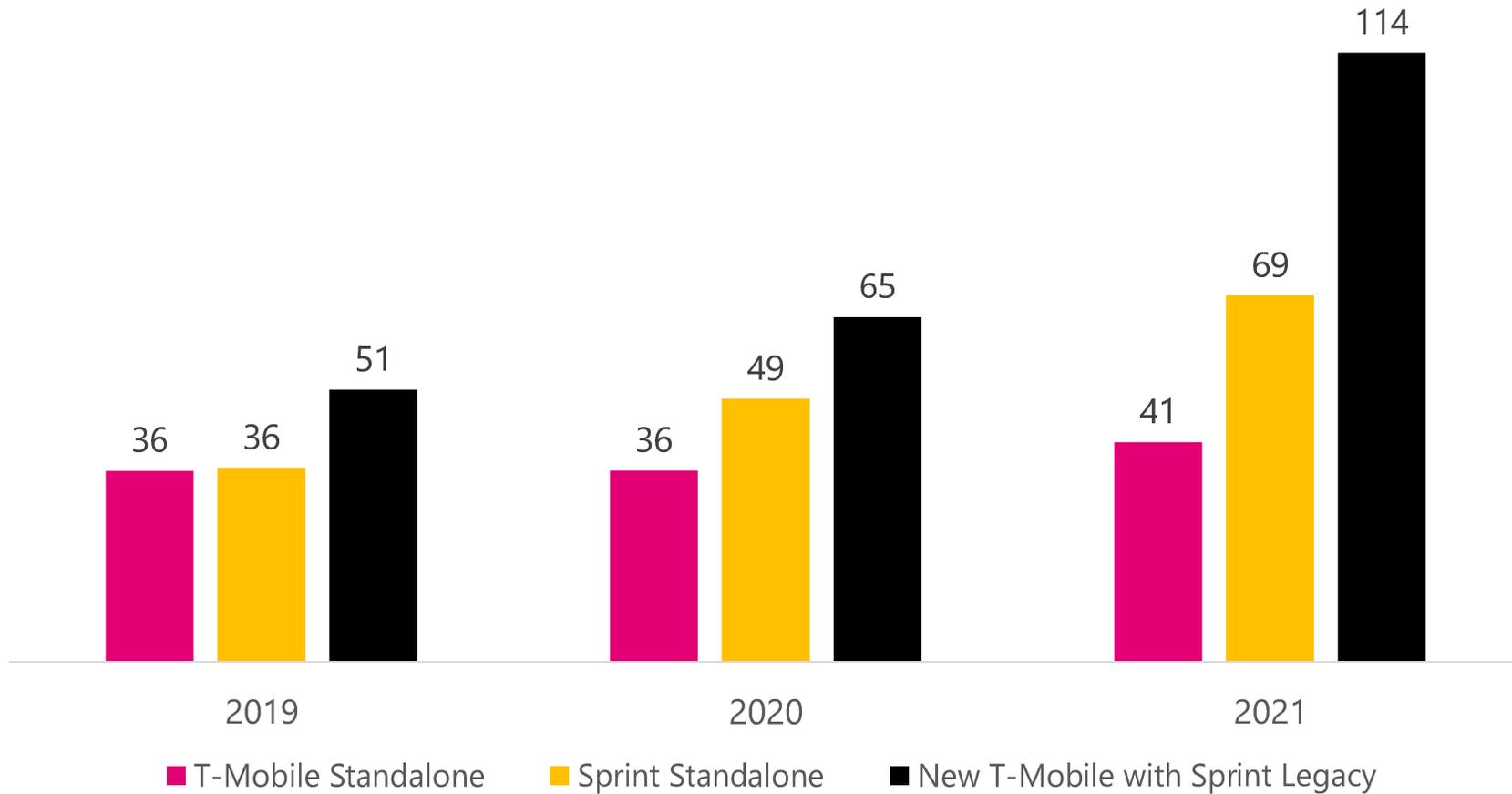


- Sufficient capacity provided to migrate all Sprint customers and improve New T-Mobile Quality
- PCS and 2.5 GHz spectrum migrations and retain sites from Sprint provide needed capacity
- Combined network delivers unprecedented results

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# The New T-Mobile will deliver a super-charged network

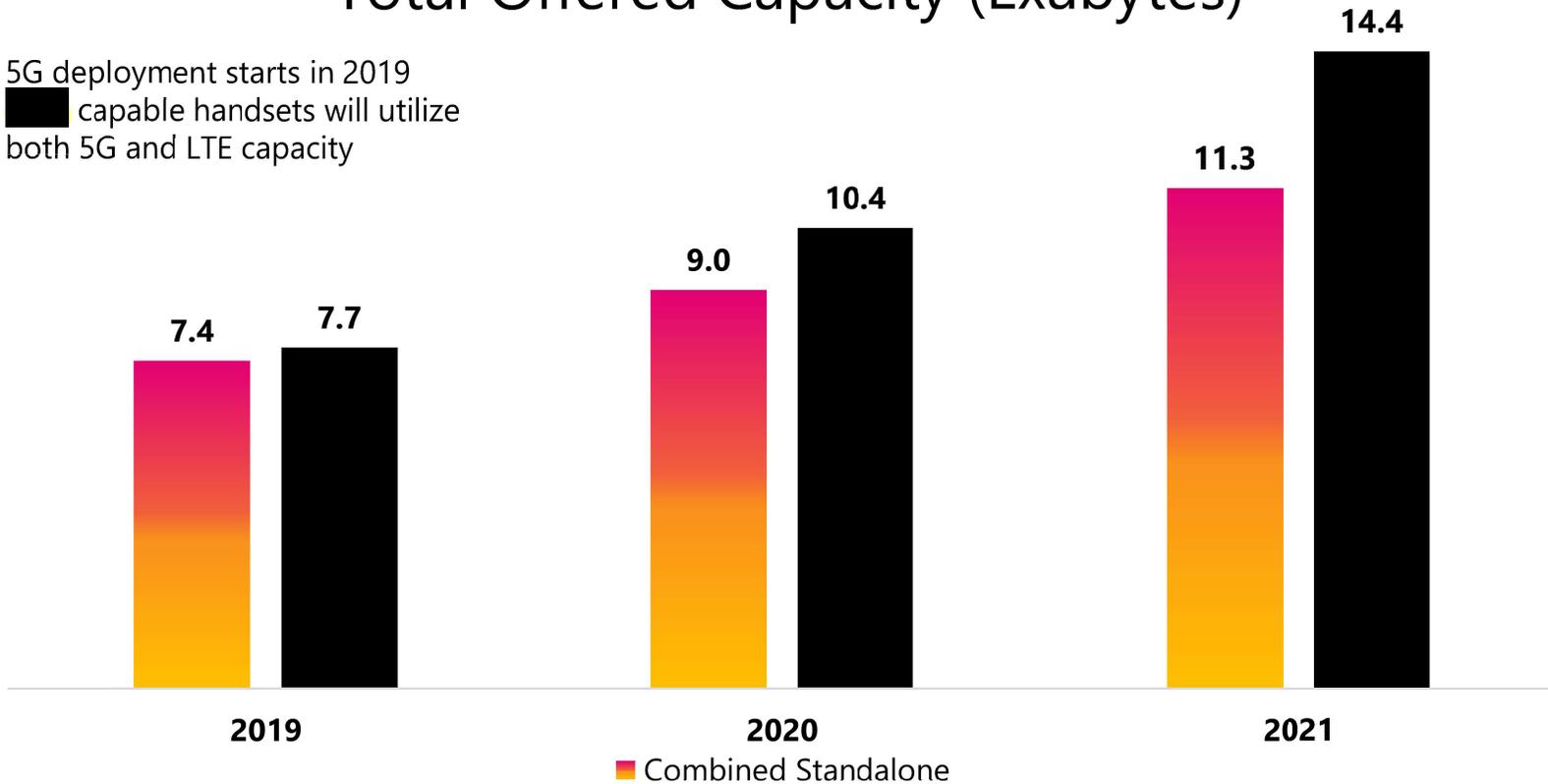
Blended LTE and 5G Throughput (Mbps)



# New T-Mobile provides higher capacity

## Total Offered Capacity (Exabytes)

- 5G deployment starts in 2019
- ■ capable handsets will utilize both 5G and LTE capacity



# Combining assets drives down the cost of capacity and coverage in multiple ways

## Deploying Sprint PCS spectrum on T-Mobile PCS radios

- Nearly all T-Mobile PCS radios can accept 5+5 MHz and ████ 10+10 MHz of Sprint PCS spectrum as-is
- Each time New T-Mobile does a sector add or cell split, it gets more capacity (T-Mobile PCS/AWS + Sprint PCS) for the same cost (one radio)

## Lower cost options to resolve congestion

- In many situations where T-Mobile would have to do a sector add or cell split, New T-Mobile can resolve congestion by doing a 2.5 GHz radio add
- New T-Mobile cell splits with all spectrum bands will be a lot cheaper than the sum of both standalones doing cell splits

## Complementary spectrum provides breadth and depth

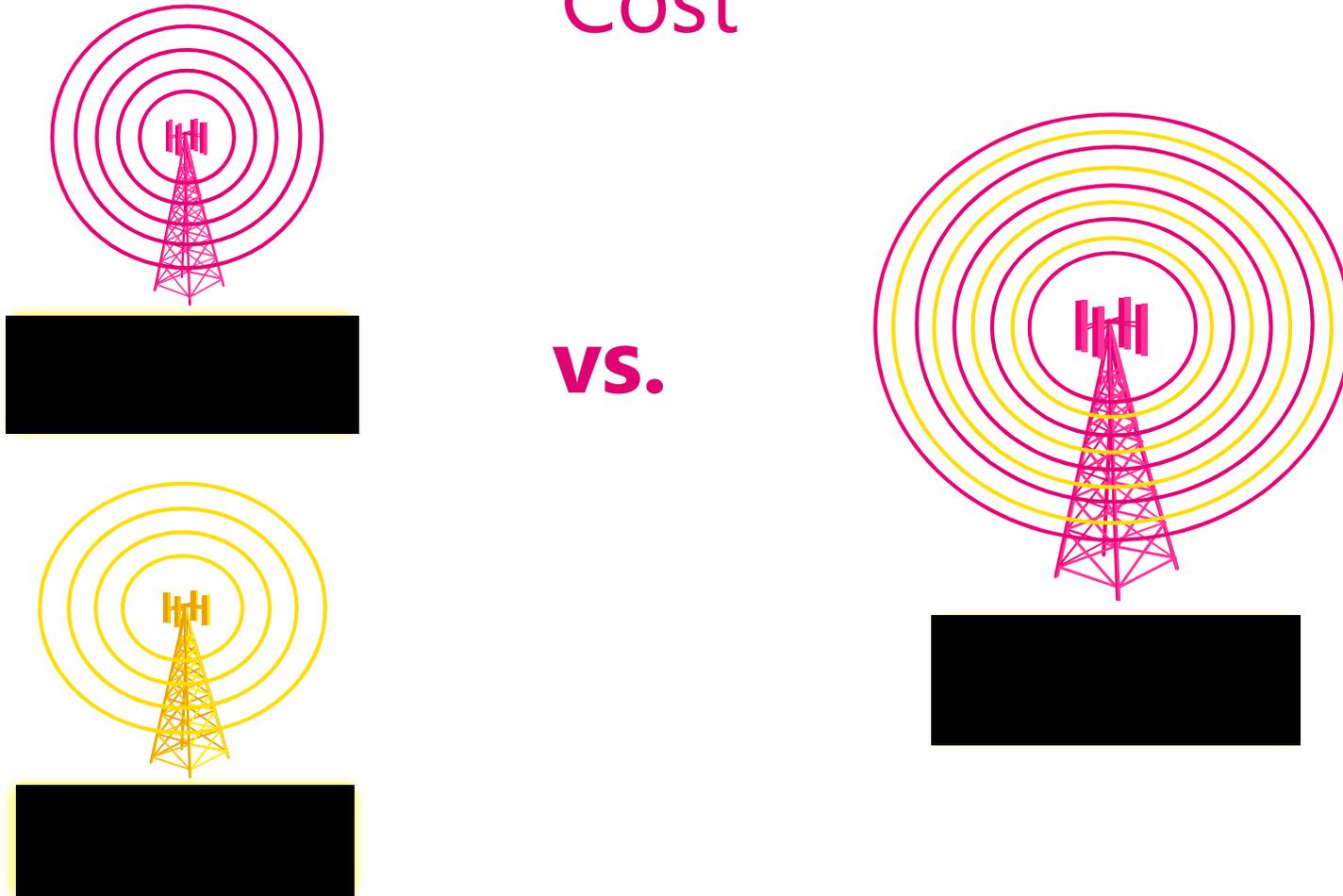
- Lack of 5G low-band spectrum and limited PCS spectrum for Sprint results in relative higher percentage of traffic at the cell edge, where noise is higher
- New T-Mobile has low band and more PCS/AWS reducing cell edge traffic, so that a greater share of 2.5 GHz traffic comes from the cell center

## Keep sites are cheaper and faster than cell splits

- Keep sites would require fewer or no zoning approvals and lease changes, reducing the cost to deploy new hardware relative to a full cell split
- After acquiring MetroPCS, T-Mobile ended up keeping ~4K MetroPCS sites as a low-cost congestion solution & improving customer experience

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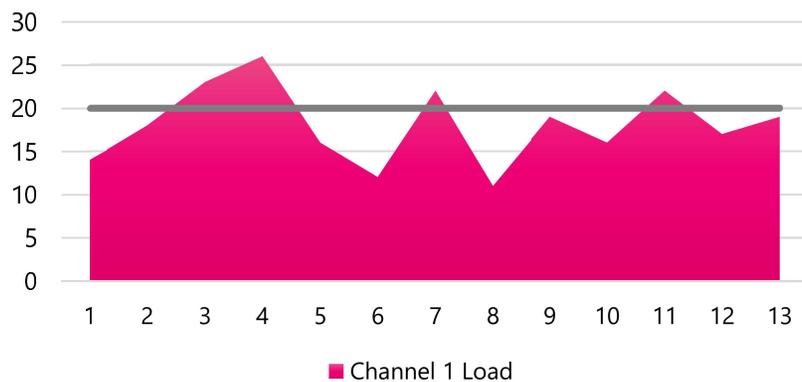
# Cell Splitting: Increasing Capacity at Low Cost



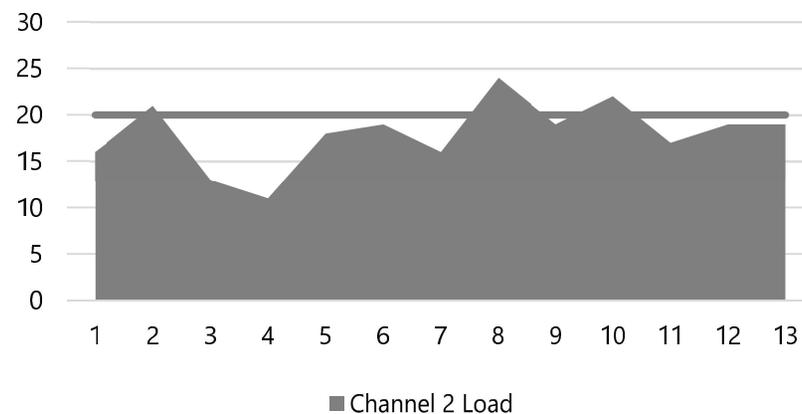
Note: Reflects the following configurations: Standalone T-Mobile – 600MHz and AWS/PCS;  
Standalone Sprint – “Tri-Band” (800MHz, PCS, 2.5G) with FD-MIMO;  
New T-Mobile – 600MHz, AWS/PCS, 2.5 GHz without FD-MIMO.  
CapEx is \$/unit; OpEx is \$/unit/year

# Combining Loads Enables More Efficient Use of Spectrum

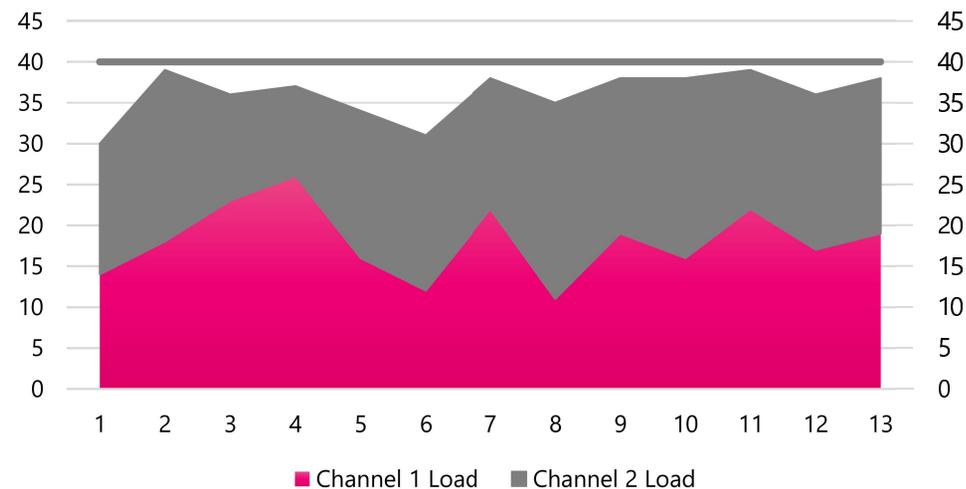
### Channel 1 Load



### Channel 2 Load

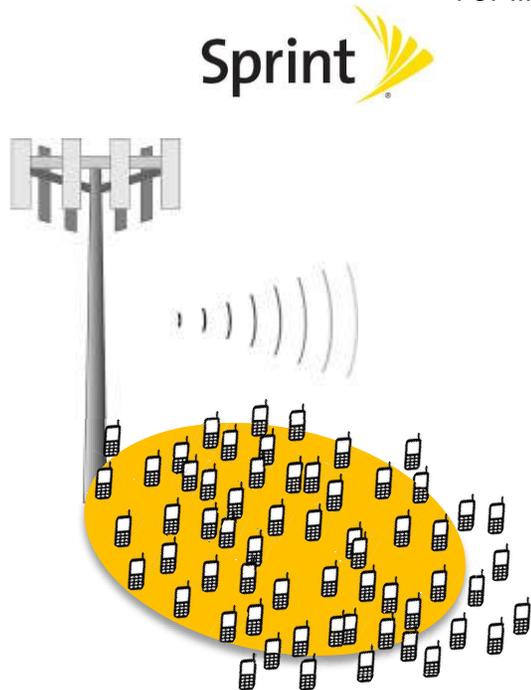


### Combined Channel Loading



# Multi-band 5G deployment addresses cell-edge traffic

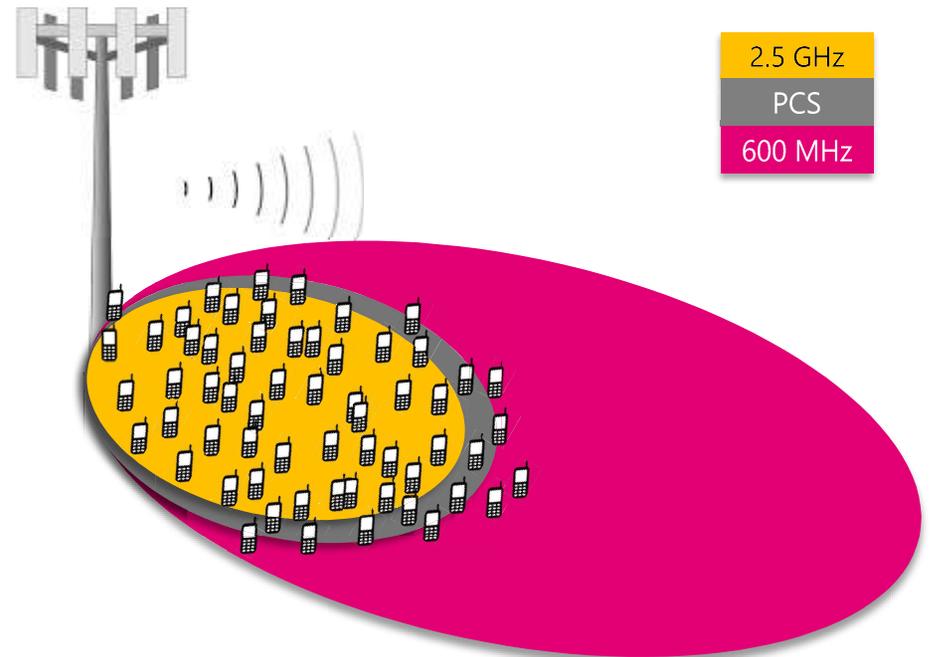
For illustrative purposes only, not to scale



Sprint

Sprint will deploy 5G on 2.5 GHz layer only. Users on cell edge will most likely lose 5G coverage and fall back to LTE/CDMA.

New T-Mobile



2.5 GHz  
PCS  
600 MHz

New T-Mobile will utilize the midband and lowband spectrum for 5G. Users on cell edge of 2.5 GHz layer will be covered by PCS and 600 MHz layers.

Low-band spectrum (below 1 GHz) allows for better coverage in buildings as well as in rural areas, These bands support cell site operating radii of up to 18 miles. Mid-band spectrum (from 1 GHz to 6 GHz) is better suited for suburban and urban areas as it provides higher capacity, These bands support cell site operating radii of approximately 4 miles.

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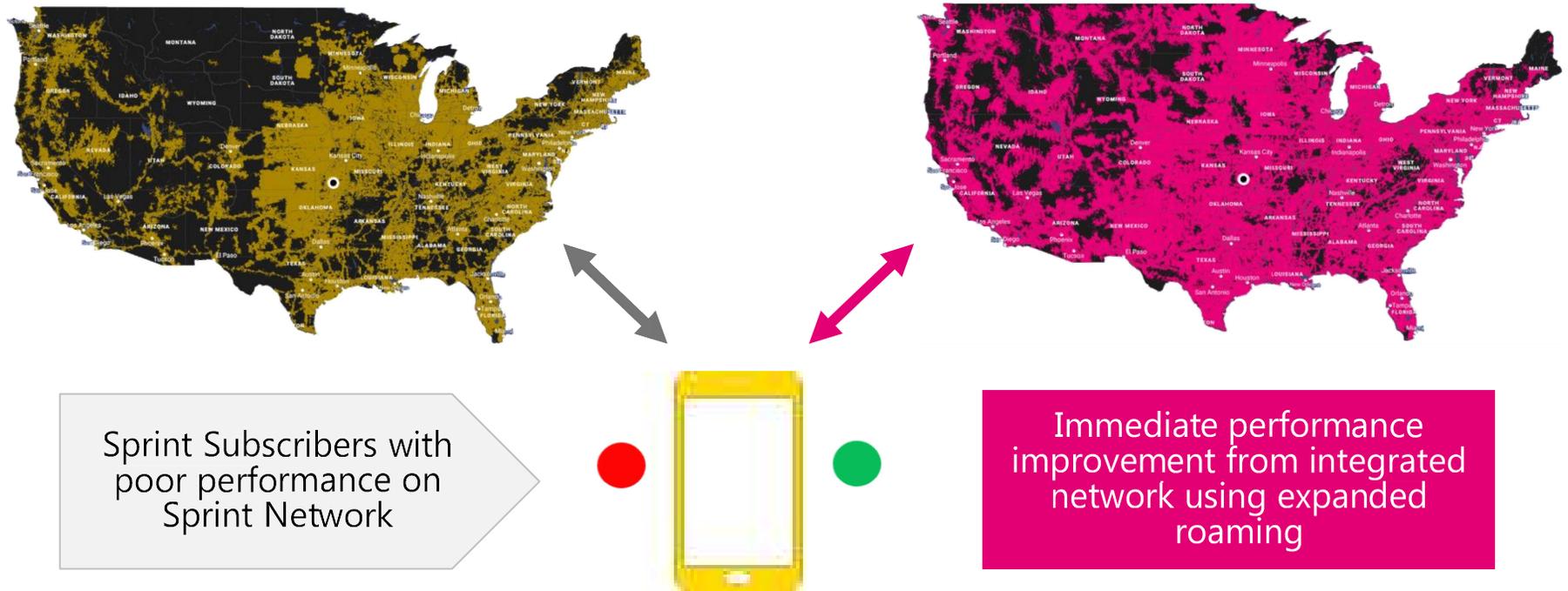
# Agenda

## Network Migration Principles

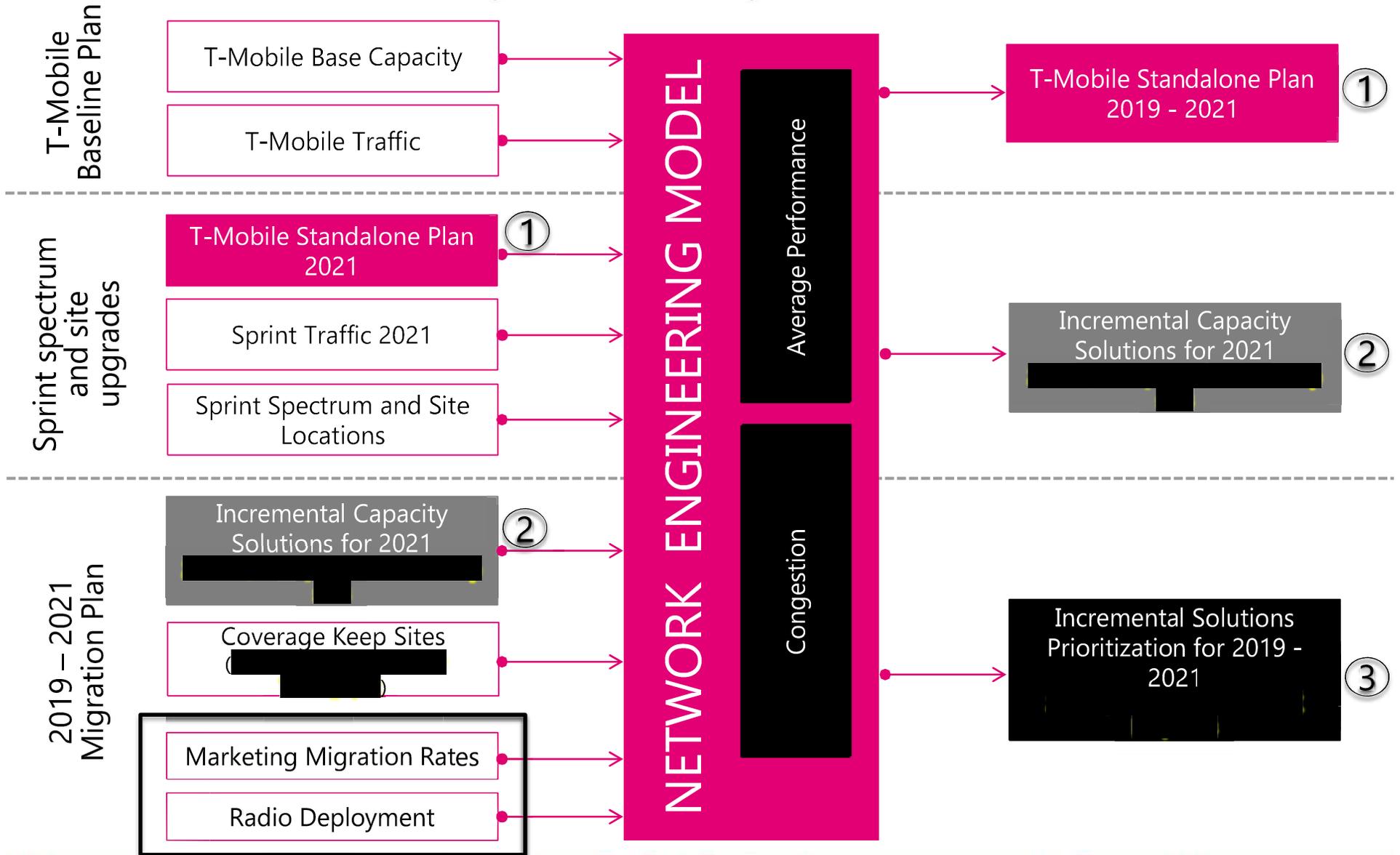
### 2019-2021 Migration Plans

# Expanded Roaming provides immediate experience improvement where most needed

- Advanced technology feature sets will be deployed soon after close to improve experience of Sprint subscribers with performance challenges on their current network
- Technology and Marketing teams are working to identify consumers with the highest need for the performance benefit from the joint network, who can benefit immediately with their current handset

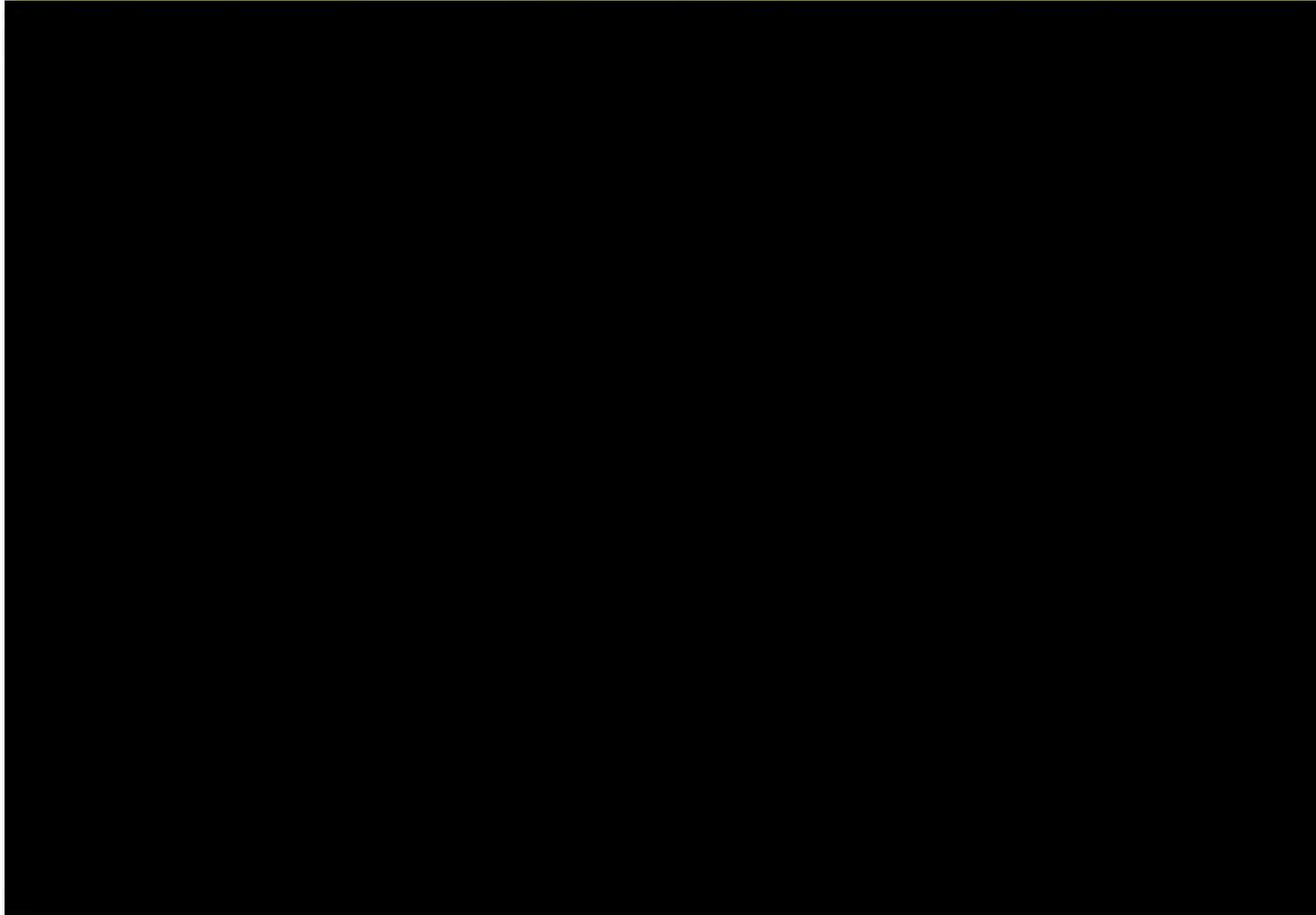


# Building the Migration Plan



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# Marketing Migration Rates

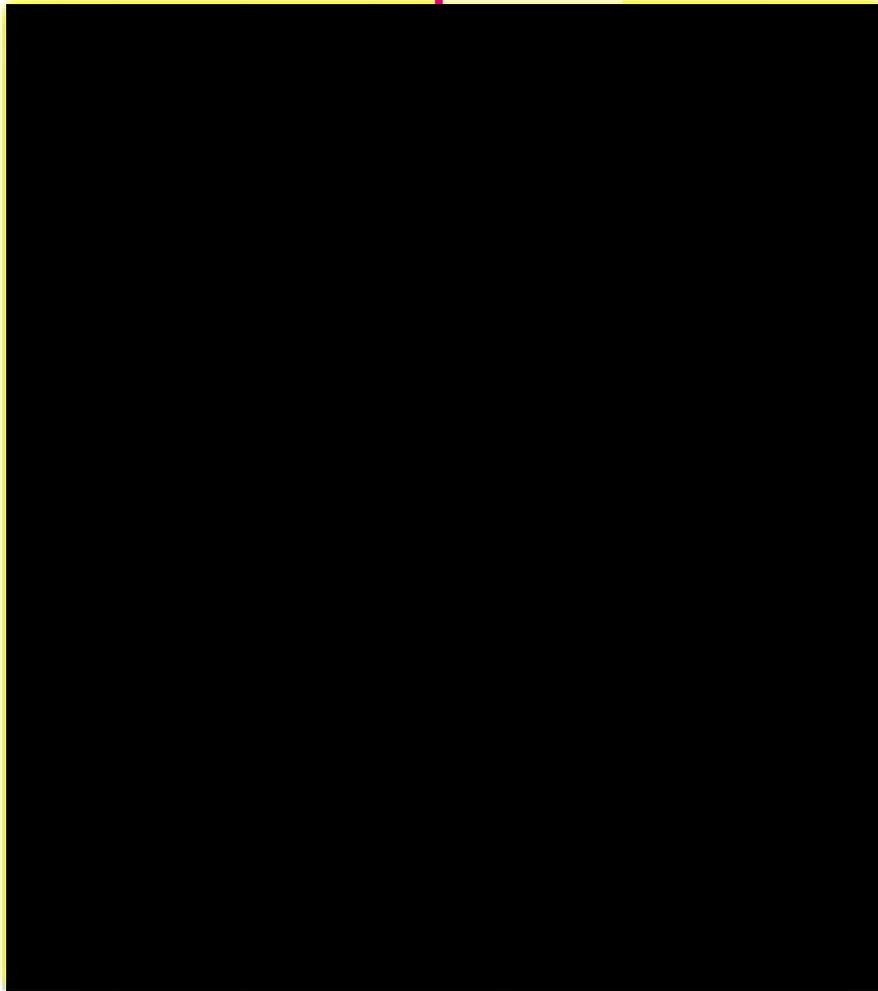


November 2018 Presentation to Board of Directors

# Radio Deployment

- Development team analyzed the number of T-Mobile projects and development capacity per year considering:
  - market distribution
  - new sites vs upgrades
  - site types (rooftop vs tower, MLA vs non-MLA)
- Development ramp-up and In-flight projects would result to [REDACTED] migration projects in 2019
- More available capacity to build the migration projects in 2020 allowing up to [REDACTED] 2.5GHz/PCS radio upgrades and [REDACTED] keep sites
- All remaining migration projects and carryovers from previous years will be implemented in 2021

# Significant planning work completed and pace continues to ramp

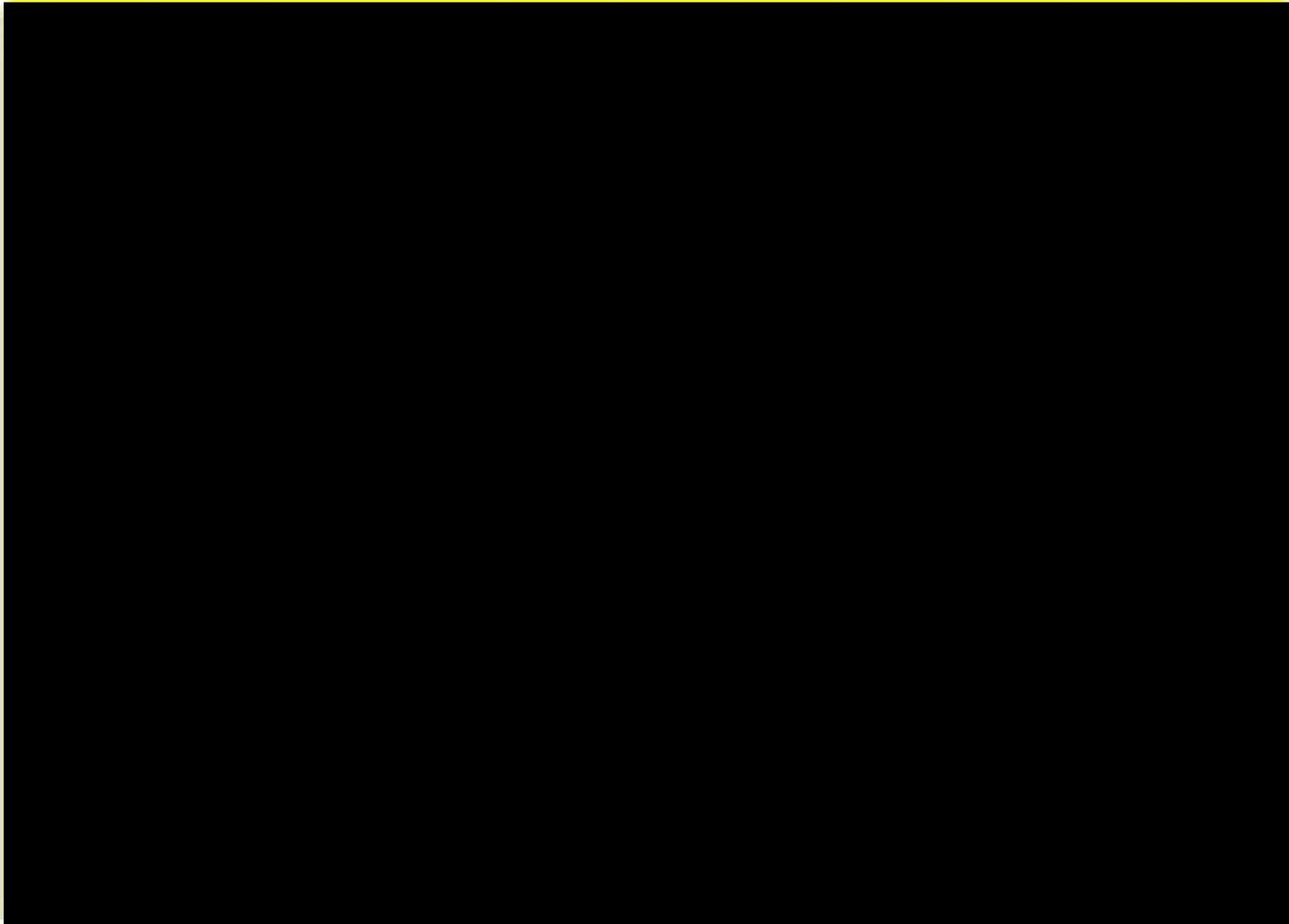


- In order to rapidly begin integration of the networks after the Closing Date, T-Mobile has independently decided to begin work in many places
- In addition to what was presented to the Board of Directors, T-Mobile has started zoning and entitlement work at over [REDACTED] sites

February 2019 Presentation to Board of Directors

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# Plan for Aggressive Migration



November 2018 Presentation to Board of Directors

# Migration Plan – 2019

2019 Marketing Migration Rate

- [REDACTED]
- Natural migration and gross flows, incentivized migration will ramp-up in 2020
- Starting with postpaid and prepaid customers

Site Development Capabilities

- New T-Mobile Development Capabilities: [REDACTED] projects
- Migration Projects that can be implemented: [REDACTED]

Network Model Capacity Analysis

- [REDACTED]
- [REDACTED]
- [REDACTED]

Incremental Solutions for 2019

- [REDACTED]
- [REDACTED]

# Migration Plan – 2020

2020 Marketing Migration Rate

- [REDACTED]
- Natural migration + gross flows + incentivized migration
- Postpaid and prepaid acceleration, starting MVNO customers

Site Development Capabilities

- New T-Mobile Development Capabilities: [REDACTED] projects
- Migration Projects that can be implemented: [REDACTED]

Network Model Capacity Analysis

- [REDACTED]
- [REDACTED]
- [REDACTED]

Incremental Solutions for 2020

- [REDACTED]
- [REDACTED]
- [REDACTED]

# Migration Plan – 2021

2021 Marketing Migration Rate

- 100%
- Natural migration + gross flows + incentivized migration
- All Sprint branded & MVNO customers migrated

Site Development Capabilities

- New T-Mobile Development Capabilities: [REDACTED] projects
- Migration Projects that can be implemented: all remaining projects

Network Model Capacity Analysis

- Calculate congestion considering 100% migration rate and 2020 base and incremental capacity
- Implement all remaining migration projects and assess the end-state congestion and throughput

Incremental Solutions for 2021

- [REDACTED]
- [REDACTED]
- [REDACTED]

# Appendix



# Incremental schedule of site upgrades and spectrum re-farms (all figures are approximate)

PROJECT	Q4 2019	Q4 2020	Q4 2021
600MHz Low-band			
Sector Adds			
Cell Splits			
Small Cells			
Active Antennas			
Sprint PCS Spectrum re-farm to New T-Mobile			
2.5 GHz LTE Spectrum			
Retain Site Upgrades			
Cumulative 5G Device Penetration			

Note – [Redacted]