

Exhibit G:  
**Annual Loan Products Narrative Reporting Template**

FREDDIE MAC

RURAL HOUSING

2018 REPORT

EVALUATION AREA: PRODUCT

**ACTIVITY:**

*Activity 1 – High-Needs Rural Regions: Regulatory Activity*

**OBJECTIVE:**

*Objective E: Develop a rural mapping tool*

**ACTIONS:**

*In 2018, Freddie Mac developed a national mapping tool to identify rural and high needs rural regions as defined by FHFA. We received first-hand feedback from several key stakeholders and are positioned for a broad public release in 2019. The completion (and eventual public release) of this tool, which we will be free to the public, will have a profound impact on understanding challenges and opportunities for financing and investing in affordable housing in Rural America. Supporting rural and high needs rural regions is a key priority for Freddie Mac. This tool advances our ability to do so considerably.*

*As part of our beta version, users can toggle between various rural and high needs rural regions. This tool employs Google maps servers, with the geographies laid out above using shape files, so it is naturally familiar to users. The tool includes all of the capabilities included in our Plan. Users can search based on individual addresses or a batch of addresses in both “Satellite” or “Maps” formats, receive latitude and longitude coordinates and census tract information and export data relevant to their searches.*

*These features enable developers, states and localities, syndicators and lenders to better understand these geographies and various properties that may qualify under DTS, thus eliminating further barriers to promoting affordable multifamily housing in rural areas. This, combined with our Optigo<sup>SM</sup> lenders’ and syndicators’ support for these areas, will have a significant impact in improving both affordability and quality of the housing in rural America through investment in new construction and rehabilitation of properties.*

*This mapping tool is the first of its kind in many ways. It can be used by many market participants in order to better identify and understand these geographies which are in need of greater support. It permits our Optigo lenders and syndicators to deliberately seek and finance or investment in affordable multifamily properties located in rural areas. Additionally, it can be used by research and policy organizations as they develop policies for the communities defined as meeting FHFA’s definition of rural. We plan to release the tool to the public in 2019, which will bring more attention to the markets we are supporting and can help increase investment interest over time. Without this tool, deliberate support of DTS rural geographies, and the more specified regions within rural areas, would be very difficult.*

<b>Planned Actions</b>	<b>2018 Actions</b>
<p><i>Initiate a technology project that will ultimately deliver an interactive mapping tool to identify rural areas and high-needs rural census tracts for internal and public use.</i></p> <p><i>Steps to achieve this in 2018:</i></p> <p><i>a. Identify/Develop appropriate software for the tool.</i></p>	<p><i>We initiated a technology project with Freddie Mac development team to create the tool. We had weekly meetings throughout 2018 to ensure the tool was being created in line with our priorities on the business side as well as research side.</i></p> <p><i>In 2018, we achieved the following:</i></p>

<p>b. Aggregate and align data from a selection of the following and other sources we discover in our research for use in the mapping tool: National Housing Preservation Database, data.gov, HUD, and Census Bureau</p> <p>c. Test the mapping tool in beta form prior to formal release.</p> <p>d. Solicit market feedback from seller/servicers, syndicators, and rural research organization(s).</p> <p>e. Note: With any mapping and searching of data, there will be a margin of error in trying to identify exact locations of properties— address mismatches and latitude/longitude imprecisions may create some ambiguity or false positives in a small minority of cases.</p>	<p>a. Worked with our internal technology teams to identify Google as the appropriate platform through which we would initiate the development of this mapping tool</p> <p>b. Leveraged data from ACS and FHFA to create the beta version of the tool and have gathered data from NHPD to be used in a 2019 public release. Through our development efforts, we determined that these are the most impactful datasets.</p> <p>c. Tested the tool internally and have shared the tool to a number of external organizations for Beta testing. Through the feedback we have received, we have determined the tool to be highly effective and plan to incorporate appropriate feedback in our public release in 2019.</p> <p>d. Solicited feedback from external organizations who are representative of those most likely to use the tool extensively including: National Housing Trust (Research &amp; Policy), Housing Assistance Council (Rural Research Organization), Greystone (Seller/Servicer), Public and Affordable Housing Research Corporation (PAHRC) (Research &amp; Policy), and Boston Financial (Syndicator) to ensure that our tool has been developed in a user-friendly manner. We plan to incorporate this feedback in the 2019 public release.</p>
<p>Assemble a design team, bringing together the necessary individuals who will design and implement the product from IT, research, and multiple business areas.</p>	<p>A team of over 10 individuals in research, production business, coding, data analytics, product management, and design helped create this product, which took more than a year to complete.</p>
<p>Reach out to external vendors to acquire or purchase the necessary data to build the platform.</p>	<p>We acquired data from FHFA and ACS that has been built into the tool. We have also engaged the NHPD to negotiate terms to leverage their data relating to affordable housing subsidies on individual properties. Through our development efforts, we determined that these are the most impactful datasets. This data will be uploaded into our tool in 2019 and will be included in our public release.</p>
<p>Identify the needs of stakeholders including:</p> <p>a. Research organizations</p> <p>b. Trade organizations</p> <p>c. Borrowers</p> <p>d. Seller/Servicers</p>	<p>In designing this tool, we identified the needs of key stakeholders based on our experience with each type of group as part of our business and research operations.</p> <ol style="list-style-type: none"> <li>1. Research and trade/policy organizations need to be able to be able to understand the DTS implications of properties and geographic areas, be able to upload properties for analysis, and extract underlying data for analysis</li> <li>2. Borrowers need to understand where DTS rural and high needs rural regions are so they can pursue sites in those areas.</li> <li>3. Lenders and syndicators need to be able to test property addresses individually or in bulk to understand whether deal opportunities they bring to Freddie Mac qualify for DTS credit</li> <li>4. Localities who are interested in promoting rural affordable housing need to see where the geographic boundaries are if they want to align with DTS priorities</li> <li>5. We need to be able to direct our lenders syndicators to areas so they may better pursue rural transactions</li> </ol> <p>Our tool meets these needs.</p>

**SELF-ASSESSMENT RATING OF PROGRESS:**

Select the category that best describes progress on this objective for the year.

- Objective met
- Objective exceeded
- Objective partially completed:
  - 75-99% (substantial amount)
  - 50-74% (limited amount)
  - 25-49% (minimal amount)
  - 1-24% (less than a minimal amount)
- No milestones achieved

**PARTIAL CREDIT JUSTIFICATION:**

N/A

**IMPACT:**

Provide a self-assessment of the level of impact that actions under the objective have accomplished.

- 50 – Substantial Impact
- 40
- 30 – Meaningful Impact
- 20
- 10 – Minimal Impact
- 0 – No Impact

**IMPACT EXPLANATION:**

Answer the following questions.

1. How and to what extent were actions under this objective impactful in addressing underserved market needs or laying the foundation for future impact in addressing underserved market needs? (*Character limit: 3,000 characters, including spaces*)

*This mapping tool will broaden the market's knowledge of rural and high needs rural regions. Research, including our own, suggests that rural communities often lack safe, affordable and quality rental housing options. In creating a mapping service that allows for the quick identification and analysis of rural and high needs rural regions, Freddie Mac is making it easier for lenders and developers to support these areas. This tool will also support further research on these areas by both Freddie Mac and external research organizations and enable more deliberate focus by states, HFAs, developers, lenders, Freddie Mac, and capital markets investors.*

*The tool will impact the market by enabling:*

- *investors to understand which properties are located in rural areas;*
- *researchers to better study the distribution of properties and investment in rural areas;*
- *policy makers, states, and localities to better align their policies and incentives with DTS definitions if they desire to; and*
- *our Optigo lender network and our LIHTC syndicators to deliberately target properties in rural areas.*

*Additionally, prior to the creation of this tool, we had to geocode all addresses that we wanted to track against DTS and test property census tracts against DTS definitions. This was a lengthy process that has been greatly reduced in both time and costs – geocoding with external sources typically costs approximately 25 cents per 100 geocodes, a costly process if thousands of addresses are being geocoded throughout the year. Our tool is free and will be available to the public in 2019.*

*We expect that this mapping tool will have multiple uses and therefore benefit various parties, including: researchers, policy makers, localities, developers, and ultimately people and communities around the country. It lays an important foundation to decrease barriers to public policy decision making and development and financing decisions and allows for the better focusing of private capital to rural areas. This tool will likely uncover new market opportunities and enable us to better support them going forward through deliberate action from our Optigo lenders. The uniqueness of the tool, as well as its user-friendly interface, will support future development and lending in these areas and will demonstrate a substantial impact to the market.*

*Our mapping tool will establish an important foundation for both analysis of rural markets and identification of rural investment opportunities. This tool will likely uncover new market opportunities and enable us to better support them going forward through deliberate action from our syndicators. The uniqueness of the tool, as well as its ease and versatility of use in supporting future development and lending in these areas, demonstrates substantial impact to the market.*

2. **Optional:** How do actions under this objective support future actions detailed in the Plan for the underserved market? If there have been any changes in the planned next steps or timeline for work under or related to this objective, describe the changes and provide a brief explanation. (Character limit: 1,500 characters, including spaces)

*This mapping service will be useful for Freddie Mac's business platforms as we look to purchase loans on, and invest LIHTC equity in, properties that are located in rural and high needs rural regions. Without this tool, it was difficult for our syndicators to track deals that meet the qualifications and geographies. With the tool, identification becomes a much simpler exercise. As we continue to update the tool, we will look for ways to input property level data and include avenues for users to select a property and identify the most relevant Freddie Mac offerings.*

*This tool establishes a greater market understanding of rural areas and the primary challenges to creating and preserving affordable housing in these areas. This tool has several elements that make the tool more user-friendly than originally anticipated. We can batch upload addresses for quick search results, filter based on various mapping layers, download property information to excel, search by address or by simply selecting a location with their cursor. When a property or location is selected, a dropdown menu populates with additional options. This includes: latitude and longitude coordinates, census tract, all DTS geographies, and if the property or location would qualify as a DTS purchase. With these new capabilities, Freddie Mac is better positioned to utilize existing offerings and implement new ideas that will help create lasting affordability for communities in rural areas.*

3. **Optional:** Are there any market factors that adversely impacted the actions under this objective? If so, describe. (Character limit: 3,000 characters, including spaces)

*In the development of this tool, the primary challenge was the disparate data sources for rural housing. Current data on rural housing markets are unconsolidated in part because there has not been comprehensive and deliberate attention paid to this market, particularly as defined in DTS. Our paper in LIHTC in Middle Appalachia, and our future papers on the Lower Mississippi Delta and Persistent Poverty Counties will go a long way towards remedying this issue, and this mapping tool can be used in combination with other research efforts to lay a foundation for greater understanding. An understanding of the geographies and demographics of these areas is a building block for greater research and understanding going forward.*

*Additionally, at present, there are no comparable mapping tools in the market. The development of this rural mapping tool required a significant dedication of resources and a high level of effort. Multiple collaboration sessions were required to identify stakeholder needs and incorporate them into our requirements. We believe we have created an effective, user-friendly tool. We expect that such a tool will have multiple uses and will help to broaden understanding of housing in rural areas.*

4. **Optional:** How did the actions under this objective contribute to increased or future loan purchases for the underserved market? (Character limit: 1,500 characters, including spaces)

*To measure Freddie Mac's ability to contribute to a market, we first need to understand the size and scope of that market. This tool contributes to the understanding of this market from a visual and practical standpoint. We can now inform our syndicators and Optigo lenders of these markets and better direct them to properties in these rural areas by using the mapping tool.*

*Promoting multifamily housing in rural areas is dependent upon deliberate action from state and local governments, developers, investors, primary lenders and communities themselves. This mapping tool will aid action from these agencies. As a result of this tool, these parties are better equipped to undertake such efforts. In combination with our market leading research papers on Middle Appalachia and Indian Areas, we are now better suited to engage in purchases investments that meet FHFA's criteria.*

*Attach the information detailed in the list of documentation specific to the objective that was provided by FHFA.*

Exhibit C:

**Second Quarter Loan Products Narrative Reporting Template**

FREDDIE MAC

RURAL HOUSING

2Q REPORT

EVALUATION AREA: PRODUCT

**ACTIVITY:**

*Activity 1 – High-Needs Rural Regions: Regulatory Activity*

**OBJECTIVE:**

*Objective E: Develop a rural mapping tool*

Outside of Duty to Serve, there are many definitions of “rural areas.” The distinct definitions can cause confusion in the market. To alleviate this, it is important to create a mapping tool that will clearly define Duty to Serve rural and high needs rural areas, which will make it easier to locate and track multifamily housing in these communities. During the first two quarters of 2018, we have begun development of a national interactive mapping tool, which will identify rural areas as defined by FHFA. We have identified the appropriate software necessary for the tool, collected relevant data, and have begun coding to create the tool. Given the progress made so far, we are on track to meet this objective.

**ACTIONS:**

Action Category	Action Reference – Activity 1; Objective E	Status
Market Actions	Action 1A-E	Initiate Technology Project – A and B: Complete. C, D, and E: In process
Resource Actions	Action 1	Assemble Design Team – Complete
	Action 2	Acquire or Purchase Data required for the tool– Complete
	Action 3A-D	Identify Needs of Stakeholders – Complete

**SELF-ASSESSMENT RATING OF PROGRESS:**

*Select the category that best describes progress on this objective for the reporting period.*

- On-target to meet or exceed the objective
- Progress delayed and/or partial completion of the objective expected
- Unlikely to achieve any milestones of the objective

ADDITIONAL INFORMATION (IF APPLICABLE):

N/A

Rural\_HN Regions\_E\_Narrative\_Q2