
NC Broadband Survey

Calculated Fields

October 2020 Edition

OVERVIEW

This document provides details on the derivation of the calculated fields that are provided for the aggregated NC Broadband Survey data, specifically the 2020 Farm Survey, 2020 General Broadband Survey and the phone-based Internet Reporting Tool.

These fields are available in the UNION views in the production and development databases.

In MySQL, True and False will be represented as a TINYINT(1), one bit integers that can be 0 or 1 not strings “True” and “False”.

Detailed Field Descriptions

This flag indicates that the user has affirmed that there is no cell service at the location because no provider offers service.

c_no_cell_service_available (True, NULL)

General:

```
IF Q7.1_1 Why don't you use cellular service at this location? =  
    No cellular coverage at this location  
THEN True  
ELSE NULL
```

Note that Q7.1 is only presented to users that select “No, I do not have cellular service at this location” to Q3.1 Do you use cellular service at this location?

Farm:

```
IF Q9.1_1 Why does this farm office not use cellular internet service? =  
    No cellular coverage at the farm office  
THEN True  
ELSE NULL
```

Note that Q9.1 is only presented to users that select “No, we do not have cellular service at this farm.” to Q3.2 Does this farm office use cellular internet access to conduct farm business?

Phone:

Always NULL

Since a cellular phone user may have reported their location using the phone reporting tool, one might assume that we can derive a Yes/No value for phone users based on carrier_type; however, the user may have reported their location while at a different location. So there is no way to positively determine if a cellular user actually has cellular service at the location reported.

c_no_internet (True, NULL)

This flag indicates that the user has no internet of any type (neither fixed nor cellular) at the location. Since the phone survey specifically guides users to the online survey if at all possible, it is assumed that a completed response on the phone survey affirms that the user has no internet access.

General:

```
IF ( Q3.1 Do you use cellular service at this location? =  
    Yes, for voice calls only  
OR Q3.1 = No, I do not have cellular service at this location )  
AND  
    ( Q3.3 Excluding cellular, what is the primary type of internet service  
    used at this location? = Dial-up  
OR  
    Q3.3 = None )  
THEN True  
ELSE NULL
```

Farm:

```
IF ( Q3.1 Does this farm office currently have wired internet service, such  
as cable modem, DSL or fiber? = No  
AND  
    Q3.2 Does this farm office use cellular internet access to conduct farm  
business? = No  
AND  
    Q3.3 Does this farm office currently have fixed wireless or satellite  
internet service? = No )  
THEN True
```

ELSE NULL

Phone:

```
IF ( exit_flag = VOICE_INTER_1
    OR exit_flag = VOICE_INTER_2
    OR exit_flag = VOICE_COMPLETE
    OR exit_flag = TXT_NO_CONFIRMED_ADDR
    OR exit_flag = TXT_FINISHED )
THEN True
ELSE NULL
```

c_no_wireline_internet (True, NULL)

This flag indicates that the user has no wireline internet (excludes cellular, satellite and fixed wireless) at the location. Since the phone survey specifically guides users to the online survey if at all possible, it is assumed that a completed response on the phone survey affirms that the user has no internet access.

General:

```
IF ( Q3.3 Excluding cellular, what is the primary type of internet service
used at this location? = Fixed wireless
OR
    Q3.3 = Satellite
OR
    Q3.3 = Dial-up
OR
    Q3.3 = None )
THEN True
ELSE NULL
```

Farm:

```
IF Q3.1 Does this farm office currently have wired internet service, such as
cable modem, DSL or fiber? = No
THEN True
ELSE NULL
```

Phone:

```
IF ( exit_flag = VOICE_INTER_1
    OR exit_flag = VOICE_INTER_2
    OR exit_flag = VOICE_COMPLETE
    OR exit_flag = TXT_NO_CONFIRMED_ADDR
    OR exit_flag = TXT_FINISHED )
THEN True
ELSE NULL
```

c_great_grant_eligible (True, NULL)

This field indicates that a location *may be eligible* for a GREAT Grant, based on the fact that the location is not served by a fixed provider OR if it is served, the speed test reported less than 10/1 Mbps. Other factors, such as county wealth level, must also be confirmed before positively knowing if the location cation is eligible. This flag is meant as a way to quickly filter out those locations that are likely not eligible based on their existing level of service.

General:

```
IF Q3.3 Excluding cellular, what is the primary type of internet service used
at this location? = Satellite
OR (
    ( Q3.3 = Dial-up OR Q3.3 = None )
    AND
    Q6.1 Which of the following reasons explain why you do not have
    high-speed internet service at this location? =
    High-speed internet service is not available at this location
)
OR (
    ( dl_speed < 10 OR ul_speed < 1)
    AND
    Q4.2 Do you currently subscribe to the fastest speed possible from your
    internet service provider? = Yes
)
THEN True
ELSE NULL
```

Farm:

```
IF ( Q3.1 Does this farm office currently have wired internet service, such
as cable modem, DSL or fiber? = No
AND
    Q7.1_1 Why does this farm office not have wired internet service? =
    No wired service available at my location )
OR
    ( dl_speed < 10 OR ul_speed < 1)
```

```
THEN True
ELSE NULL
```

Note that the Farm survey did not ask the qualifying question “Do you currently subscribe to the fastest speed possible from your internet service provider?” so there is a small chance that some of these respondents may be able to upgrade to a service meeting the 10/1 Mbps standard.

Phone:

```
IF reason_no_internet contains “2” (not available from an internet provider)
THEN True
ELSE NULL
```

c_primary_reason_no_internet (Not available, Too expensive, Other reason, No answer, NULL)

This field provides the *primary* reason that the user indicated as the reason for not having internet access. If multiple selections were provided, they are prioritized by the logic below. If the user has internet access, or did not get this far in the survey the field will be NULL.

General:

```
IF Q6.2 Which of the following is the biggest reason you do not have
high-speed internet service at this location? = “-1” (not answered)
THEN “No answer”
ELSE
IF Q6.2 = NULL
THEN NULL
ELSE
IF Q6.2 = High-speed internet service is not available at this location
THEN "Not available"
ELSE
IF Q6.2 = Service is available, but it is too expensive
THEN "Too expensive"
ELSE "Other reason"
```

Farm:

```
IF Q7.1_1 Why does this farm office not have wired internet service? =
    No wired service available at my location
THEN "Not available"
ELSE
IF Q7.1_3 Why does this farm office not have wired internet service? =
    Service is available, but it is too expensive
THEN "Too expensive"
ELSE
IF (( Q7.1_2 = “-1”) AND
    ( Q7.1_4 = “-1”) AND
```

```

      ( Q7.1_5 = "-1") AND
      ( Q7.1_6 = "-1") AND
      ( Q7.1_7 = "-1") AND
      ( Q7.1_8 = "-1") AND
      ( Q7.1_9 = "-1") AND
      ( Q7.1_10 = "-1") AND
      ( Q7.1_11 = "-1"))
THEN "No answer"
ELSE
IF (( Q7.1_2 = NULL) AND
   ( Q7.1_4 = NULL) AND
   ( Q7.1_5 = NULL) AND
   ( Q7.1_6 = NULL) AND
   ( Q7.1_7 = NULL) AND
   ( Q7.1_8 = NULL) AND
   ( Q7.1_9 = NULL) AND
   ( Q7.1_10 = NULL) AND
   ( Q7.1_11 = NULL))
THEN NULL
ELSE "Other reason"

```

Note: On the Farm Survey Q7.1 is a multiple choice. Thus if a user selected both “not available” and “too expensive” we prioritize “not available” as the primary reason.

Phone:

```

IF reason_no_internet begins with "2" (not available from an internet provider)
THEN "Not available"
ELSE IF reason_no_internet begins with "1" (too expensive)
THEN "Too expensive"
ELSE IF reason_no_internet begins with "0" (prefer not to answer)
THEN "No answer"
ELSE IF reason_no_internet is "" (did not answer)
THEN "NULL"
ELSE "Other reason"

```

Note: On the Phone Survey via text, this question is a free form text entry. Only the first character is used as the response.

c_no_internet_due_to_provider (True, NULL)

This field indicates that the user affirmatively answered that a contributing reason to not having internet access was that no service provider is offering it. If a user did not answer the question, then they are marked as NULL.

General:

IF Q6.1_1 Which of the following reasons explain why you do not have high-speed internet service at this location? =

```
    High-speed internet service is not available at this location
THEN True
ELSE NULL
```

Farm:

IF Q7.1_1 Why does this farm office not have wired internet service? =

```
    No wired service available at my location
THEN True
ELSE NULL
```

Phone:

IF reason_no_internet **begins with "2"** (*not available from an internet provider*)

```
THEN True
ELSE NULL
```

c_no_internet_due_to_expense (True, NULL)

This field indicates that the user affirmatively answered that a contributing reason to not having internet access was that it is too expensive. If a user did not answer the question, then they are marked as NULL.

General:

IF Q6.1_3 Which of the following reasons explain why you do not have high-speed internet service at this location? =

```
    Service is available, but it is too expensive
THEN True
ELSE NULL
```

Farm:

IF Q7.1_3 Why does this farm office not have wired internet service? =

```
    Service is available, but it is too expensive
THEN True
ELSE NULL
```

Phone:

IF reason_no_internet **begins with "1"** (*too expensive*)

```
THEN True
```

ELSE NULL

c_K12_student_present (True, NULL)

This field indicates that the user affirmatively answered that a K-12 student is present at the location. This question did not appear on the Farm Survey. If a user did not answer the question, then they are marked as NULL.

General:

```
IF ( Q9.2_1 Do any students live at this home? =  
      Primary school (Kindergarten to 8th)  
OR  
      Q9.2_2 = High school (9th to 12th) )  
THEN True  
ELSE NULL
```

Farm:

Always NULL

Phone:

```
IF ( students_present begins with case insensitive "y" (text response)  
OR  
      students_present begins with case insensitive "si" (text, Spanish)  
OR  
      students_present begins with "1" (voice response)  
THEN True  
ELSE NULL
```

c_higher_ed_student_present (True, NULL)

This field indicates that the user affirmatively answered that a higher ed student is present at the location. This question did not appear on the Farm Survey. Note that the Phone Survey specifically asked about K-12 students, so higher ed students are not reported in the Phone Survey responses. If a user did not answer the question, then they are marked as NULL.

General:

```
IF ( Q9.2_1 Do any students live at this home? =  
      Q9.2_3 = Community college  
OR  
      Q9.2_4 = Other college or university )  
THEN True  
ELSE NULL
```

Farm:

Always NULL

Phone:

Always NULL

c_25_3_Threshold_Met (True, False, NULL)

This field indicates that the user completed the speed test and met the FCC 25/3 Mbps threshold for performance. If the user completed the speed test but failed to reach the 25/3 Mbps threshold then the field will be False. If the user did not complete the speed test, the field will indicate NULL.

General:

```
IF ( dl_speed >= 25 AND ul_speed >= 3 )  
THEN True  
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )  
THEN NULL  
ELSE False
```

Farm:

```
IF ( dl_speed >= 25 AND ul_speed >= 3 )  
THEN True  
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )  
THEN NULL  
ELSE False
```

Phone:

Always NULL

c_10_1_Threshold_Met (True, False, NULL)

This field indicates that the user completed the speed test and met the 10/1 Mbps threshold for performance. If the user completed the speed test but failed to reach the 10/1 Mbps threshold then the field will be False. If the user did not complete the speed test, the field will indicate NULL.

General:

```
IF ( dl_speed >= 10 AND ul_speed >= 1 )  
THEN True  
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )  
THEN NULL  
ELSE False
```

Farm:

```
IF ( dl_speed >= 10 AND ul_speed >= 1 )
THEN True
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )
THEN NULL
ELSE False
```

Phone:

Always NULL

c_Service_Level (No internet, Over 25/3, Under 25/3, Under 25/3 Fastest, NULL)

This field indicates whether or not the user completed the speed test and met the FCC 25/3 Mbps threshold for performance. If the user did not complete the speed test, but completed an online survey, the field will be NULL.

On the General Survey only, if the speed test did not meet the 25/3 Mbps threshold the user is further asked “Q4.2 Do you currently subscribe to the fastest speed possible from your internet service provider?” If the user affirmatively selected Yes (i.e. did not select No, Not Sure or no answer at all) then the record will be marked Under_25_3_HI.

General:

```
IF ( c_no_internet = True )
THEN “No internet”
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )
THEN NULL
ELSE IF ( dl_speed >= 25 AND ul_speed >= 3 )
THEN “Over 25/3”
ELSE IF ( Q4.2 Do you currently subscribe to the fastest speed possible from
your internet service provider? = “Yes” )
THEN “Under 25/3 (Fastest)”
ELSE “Under 25/3”
```

Farm:

```
IF ( c_no_internet = True )
THEN “No internet”
ELSE IF ( dl_speed = NULL OR ul_speed = NULL )
THEN NULL
ELSE IF ( dl_speed >= 25 AND ul_speed >= 3 )
THEN “Over 25/3”
ELSE “Under 25/3”
```

Phone:

```
IF ( exit_flag = VOICE_INTER_1
    OR exit_flag = VOICE_INTER_2
    OR exit_flag = VOICE_COMPLETE
    OR exit_flag = TXT_NO_CONFIRMED_ADDR
    OR exit_flag = TXT_FINISHED )
THEN "No Internet"
ELSE NULL
```