MIDUS 2 PROJECT 3:

Variable Naming Cognitive Test Battery

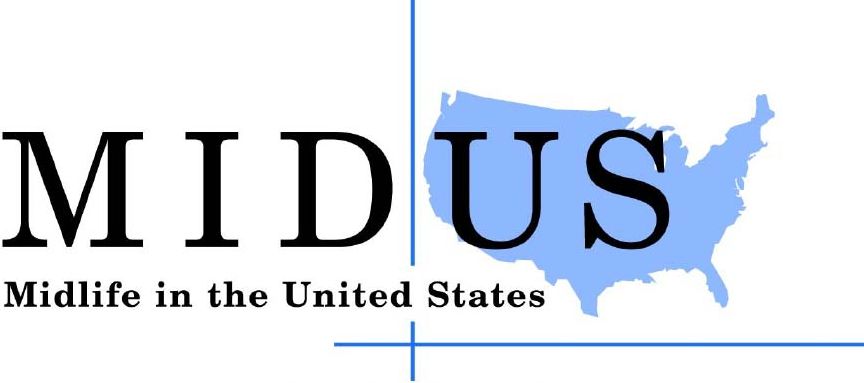
Brief Test of Adult Cognition by Telephone (BTACT)

and Stop & Go Switch Task (SGST)

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1. **Coding conventions for data**
   1. YES = 1, NO = 2
   2. INCORRECT: 95 (for Stop & Go Switch Task only)
   3. DON’T KNOW (7’s): 7, 97, 997, 9997
   4. REFUSED OR MISSING (8’s): 8, 98, 998, 9998
   5. INAPP/INVALID (9’s): 9, 99, 999, 9999
2. **Naming conventions for BTACT variables**

a) 1st letter – “B,” to indicate MIDUS 2

b) 2nd letter – indicates project number 3

c) 3rd letter – indicates type of test: T= BTACT cognitive tests

d) 4th, 5th, 6th, 7th, 8th letters – indicates either:

i. The individual test:

* WLI: Word List Recall – Immediate (Note: Columns 7 & 8 indicate response number; 1-26 possible responses)
* BD: Backward Digit Span
* CTFL: Category Fluency (also CTF)
* NS: Number Series (Note: Column 6 indicates trial number 1-5)
* BK: Backward Counting
* WLD: Word List Recall – Delayed (Note: Columns 7 & 8 indicate response number; 1-26 possible responses)

ii. A composite measure:

- WLF: Word List: Proportion Forgotten Between Immediate and Delayed

- COMP: BTACT Composite Score

iii. A flag variable: Variables with “FP” as their 7th and 8th characters serve as flag variables for potentially problematic cases. This variable indicates, by test, which cases were identified at Brandeis by our data cleaning as being problematic due to test disruption, interview equipment failures, or other problems. We recommend users exclude these tests for these specific cases.

*Note:* **Bold** variable names below indicate composite or total scale scores.

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| **VARIABLE NAME** | **VARIABLE LABEL** | **VALUES** |
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| **Word List Recall: Immediate** | | |
| B3TWLIFP | Word List Immediate flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| B3TWLI1 … B3TWLI26 | Word List Immediate: Recalled #1 … #26 (allows for max 15 correct responses + up to 11 intrusions/repetitions) | 1=Word 1  2= Word 2  3= Word 3  4= Word 4  5= Word 5  6= Word 6  7= Word 7  8= Word 8  9= Word 9  10= Word 10  11= Word 11  12= Word 12  13= Word 13  14= Word 14  15= Word 15  90=NON-LIST INTRUSION  98=REFUSED OR MISSING |
| **B3TWLITU** | Word List Immediate: Tot Unique Items | Range: 0 to 15;  Sum of all correct, unique responses from B3TWLI1 to B3TWLI26  98=REFUSED OR MISSING |
| **B3TWLITR** | Word List Immediate: Tot # Repetitions | Sum of all repeated responses from B3TWLI1 to B3TWLI26  98=REFUSED OR MISSING |
| **B3TWLITI** | Word List Immediate: Tot # Intrusions | Sum of all non-list intrusions from B3TWLI1 to B3TWLI26  98=REFUSED OR MISSING |
| **Digits Backward** | | |
| B3TDBFP | Digits Backward flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| **B3TDBS** | Digits Backward: highest # digits recall | 0, 2 to 8  98=REFUSED OR MISSING |

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| **Category Fluency** | | |
| B3TCTFFP | Category Fluency flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| **B3TCTFLU** | Category Fluency: Tot Unique Items | Sum of all in-category, unique items named  98=REFUSED OR MISSING |
| **B3TCTFLR** | Category Fluency: Tot # Repetitions | Sum of repeated items named in-category  98=REFUSED OR MISSING |
| **B3TCTFLI** | Category Fluency: Tot # Intrusions | Sum of all non-category intrusions  98=REFUSED OR MISSING |
| **Number Series** | | |
| B3TNSFP | Number Series flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| B3TNS1 … B3TNS5 | Number Series: #1…#5 (number reported) | 997=DON’T KNOW  998=REFUSED OR MISSING |
| B3TNS1C… B3TNS5C | Number Series #1…#5: correct? | 1=YES, CORRECT  2=NO, INCORRECT  8=REFUSED OR MISSING |
| **B3TNSTOT** | Number Series: Tot Correct | Range: 0 to 5;  8=REFUSED OR MISSING |
| **Backward Counting** | | |
| B3TBKFP | Backward Counting flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| B3TBKCT | Backward Counting: last # reached | 998=REFUSED OR MISSING |
| B3TBKERR | Backward Counting: # of errors | 998=REFUSED OR MISSING |
| **B3TBKTOT** | BK: (100-(B3TBKCT + B3TBKERR)) | Total correct #s produced  998=REFUSED OR MISSING |

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| **Word List Recall-Delayed** | | |
| B3TWLDFP | Word List Delayed flagged problematic? | 1=YES  2=NO  8=REFUSED OR MISSING |
| B3TWLD1… B3TWLD26 | Word List Delayed: Recalled #1…#26  (allows for max 15 correct responses + up to 11 intrusions/repetitions) | 1=Word 1  2= Word 2  3= Word 3  4= Word 4  5= Word 5  6= Word 6  7= Word 7  8= Word 8  9= Word 9  10= Word 10  11= Word 11  12= Word 12  13= Word 13  14= Word 14  15= Word 15  90=NON-LIST INTRUSION  98=REFUSED OR MISSING |
| **B3TWLDTU** | Word List Delayed: Tot Unique Items | Range: 0 to 15;  Sum of all correct, unique responses from B3TWLD1 to B3TWLD26  98=REFUSED OR MISSING |
| **B3TWLDTR** | Word List Delayed: Tot # Repetitions | Sum of all repeated responses from B3TWLD1 to B3TWLD26  98=REFUSED OR MISSING |
| **B3TWLDTI** | Word List Delayed: Tot # Intrusions | Sum of all non-list intrusions from B3TWLD1 to B3TWLD26  98=REFUSED OR MISSING |

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| **Composite Measures** | | |
| **B3TWLF** | Word List: Proportion Forgotten Between Immediate and Delayed | (B3TWLITU-B3TWLDTU)/B3TWLITU  8=REFUSED OR MISSING |
| **B3TCOMP** | BTACT Composite Score | Mean of z-scores\* for all tests except SGST: Word Lists (sum of Immediate and Delayed: B3TWLITU + B3TWLDTU), Digits Backward (B3TDBS), Category Fluency (B3TCTFLU), Number Series (B3TNSTOT), and Backward Counting (B3TBKTOT)  8=REFUSED OR MISSING |
| **B3TEM** | BTACT Episodic Memory Factor | Mean of z-scores\* for Word List Immediate (B3TWLITU) and Word List Delayed (B3TWLDTU)  8=REFUSED OR MISSING |
| **B3TEF** | BTACT Executive Functioning Factor | Mean of z-scores\* for Digits Backward (B3TDBS), Category Fluency (B3TCTFLU), Number Series (B3TNSTOT), Backward Counting (B3TBKTOT), and mean of switch and nonswitch trials (B3TSMXBB multiplied by -1) in the Stop & Go Switch Task (SGST)†  8=REFUSED OR MISSING |
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\* The z-scores were computed using the means and standard deviations obtained on the main national MIDUS 2 sample (N = 4206) to allow for longitudinal comparisons

† See description of SGST variables below. Also note the recommendation to use the B3TSFC filter described at the end of this document when working with SGST variables. The SGST scores were corrected based on the metronome values.

1. **Naming conventions for Stop and Go Switch Task (SGST) variables**
   1. **Naming convention for individual trials (raw scores)**
      1. 1st, 2nd, and 3rd character: by default is the **B3T** code that indicates MIDUS 2, Project 3, BTACT Cognitive Battery

B = MIDUS 2

3 = Project 3

T = BTACT Cognitive Battery

* + 1. 4th character indicates the **S**top & Go Switch Task
    2. 5th character: W = Ra**W** scores
    3. 6th character indicates the subtest

N = **N**ormal single-task

R = **R**everse single-task

X = mi**X**ed-task

* + 1. 7th and 8th character indicate trial number (**1**-**20** for single-task, **1**-**32** for mixed-task)
  1. **Naming convention for Normal and Reverse single-tasks composite scores**
     1. 1st, 2nd, and 3rd character, by default, is the **B3T** code that indicates MIDUS 2, Project 3, BTACT Cognitive Battery

B = MIDUS 2

3 = Project 3

T = BTACT Cognitive Battery

* + 1. 4th character indicates the **S**top & Go Switch Task
    2. 5th character indicates measure
       1. For accuracy scores

T = **T**otal correct

V = invalid

P = **P**ercent correct

* + - 1. For latency scores

M = **M**edian (or mean of medians)

* + 1. 6th character indicates the subtest

N = **N**ormal single-task

R = **R**everse single-task

X = mi**X**ed-task

* + 1. **For mixed-task composites only\***:
       1. 7th character indicates the condition

N = **N**ormal

R = **R**everse

B = com**B**ined

* + - 1. 8th character indicates the trial type

S = **S**witch

O = n**O**nswitch

B = com**B**ined

\*The last two characters apply only to the mixed-task subtest, and are omitted for the normal and reverse single-tasks. Thus, normal and reverse single-task composite measures will use only six characters rather than the full eight characters.

* 1. **Composite scores: variable names**
     1. Accuracy
        1. **B3TSPN**: normal single-task % correct
        2. **B3TSPR**: reverse single-task % correct
        3. **B3TSPXNO**: mixed-task normal nonswitch % correct
        4. **B3TSPXRO**: mixed-task reverse nonswitch % correct
        5. **B3TSPXBO**: mixed-task nonswitch % correct
        6. **B3TSPXNS**: mixed-task normal switch % correct
        7. **B3TSPXRS**: mixed-task reverse switch % correct
        8. **B3TSPXBS**: mixed-task switch % correct
        9. **B3TSPXBB**: all mixed-task trials % correct
     2. Latencies
        1. **B3TSMN**: normal single-task median RT (reaction time)
        2. **B3TSMR**: reverse single-task median RT (reaction time)
        3. **B3TSMB**: mean(B3TSMN, B3TSMR) (normal and reverse)
        4. **B3TSMXNO**: mixed-task normal nonswitch median RT
        5. **B3TSMXRO**: mixed-task reverse nonswitch median RT
        6. **B3TSMXBO**: median RT of all mixed-task nonswitch
        7. **B3TSMXNS**: mixed-task normal switch median RT
        8. **B3TSMXRS**: mixed-task reverse switch median RT
        9. **B3TSMXBS**: median RT of all mixed-task switch
        10. **B3TSMXBB**: mean(B3TSMXBO, B3TSMXBS) (nonswitch and switch trials)
  2. **Naming convention for cost variables**
     1. 1st, 2nd, 3rd, 4th characters: as above: **B3TS**, for MIDUS 2, Project 3 BTACT Cognitive Battery, Stop & Go Switch Task
     2. 5thcharacter: C=**C**ost
     3. 6th character: indicates G=**G**eneral, L=**L**ocal
     4. 7th character indicates the condition

N = **N**ormal

R = **R**everse

B = com**B**ined

* + 1. 8th character: A = **A**bsolute cost, R = **R**elative cost
  1. **Switch Costs: variable names**
     1. General switch costscompare latencies on mixed-task trials to single-task trials (mean of normal single-task and reverse single-task). Although there are several ways of calculating general switch costs, we selected this version as the most basic. We give both *absolute* and *relative* general switch costs. *Absolute costs* represent a simple difference score between the easier and more difficult condition (e.g. A – B). *Relative costs* give the proportion decline in performance from the easier to the harder condition, and thus control for differences in baseline performance (e.g. (A-B)/A).)
        1. **B3TSCGNA**: General Switch Cost (normal), absolute [mean(B3TSMXNO, B3TSMXNS) – B3TSMN]
        2. **B3TSCGNR**: General Switch Cost (normal), relative (B3TSCGNA/B3TSMN)
        3. **B3TSCGRA**: General Switch Cost (reverse), absolute [mean(B3TSMXRO, B3TSMXRS) – B3TSMR]
        4. **B3TSCGRR**: General Switch Cost (reverse), relative (B3TSCGRA/B3TSMR)
        5. **B3TSCGBA**: General Switch Cost (combined), absolute (B3TSMXBB-B3TSMB)
        6. **B3TSCGBR**: General Switch Cost (combined), relative (B3TSCGBA/B3TSMB)
     2. Local switch costs compare mixed-task switch trials to mixed-task nonswitch trials. We give both *absolute* local switch costs and *relative* local switch costs.

1. **B3TSCLNA**: Local Switch Cost (normal), absolute (B3TSMXNS – B3TSMXNO)
2. **B3TSCLNR**: Local Switch Cost (normal), relative (B3TSCLNA/B3TSMXNO)
3. **B3TSCLRA**: Local Switch Cost (reverse), absolute (B3TSMXRS – B3TSMXRO)
4. **B3TSCLRR**: Local Switch Cost (reverse), relative (B3TSCLRA/B3TSMXRO)
5. **B3TSCLBA**: Local Switch Cost (combined), absolute (B3TSMXBS- B3TSMXBO)
6. **B3TSCLBR**: Local Switch Cost (combined), relative (B3TSCLBA/B3TSMXBO)
   1. **Filters:** We provide two levels of filters. Researchers who wish to use all valid files can choose to select the Valid filter (B3TSFV below). In our analyses we have used a criterion of 75% accuracy to ensure that participants were performing the task correctly; researchers who wish to use this approach can select cases based on the Clean filter (B3TSFC below).
      1. B3TSFV (**V**alid): filters cases that were invalid due to missing sound files, technical problems, or failure to carry out the task as instructed.
      2. B3TSFC (**C**lean): To further insure that participants were performing the task as directed, we required a valid file with accuracy of at least 75% on all conditions (normal single-task, reverse single-task, mixed-task switch and nonswitch). In addition, to eliminate extreme latencies (i.e., outliers), we required median values of <2 sec for single-task and <4 sec for mixed-task trials.

*Note:* **Bold** variable names below indicate composite or total scale scores.

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| **VARIABLE NAME** | **VARIABLE LABEL** | **VALUES** |
| **Individual Trials: Raw Scores** | | |
| B3TSWN1…  B3TSWN20 | SGST: normal single-task trial #1…#20 | Latencies (s)  95=INCORRECT  98=REFUSED OR MISSING  99=INVALID |
| B3TSWR1…  B3TSWR20 | SGST: reverse single-task trial #1…#20 | Latencies (s)  95=INCORRECT  98=REFUSED OR MISSING  99=INVALID |
| B3TSWX1…  B3TSWX32 | SGST: mixed-task trial #1 “normal…green”…trial #32 “green” | Latencies (s)  95=INCORRECT  98=REFUSED OR MISSING  99=INVALID |
| **Normal Single-task Trials: Composite Scores** | | |
| **Composite Accuracy Scores** | | |
| **B3TSTN** | SGST: normal single-task #correct | 0-20  98=REFUSED OR MISSING |
| **B3TSVN** | SGST: normal single-task #invalid | 0-20  98=REFUSED OR MISSING |
| **B3TSPN** | SGST: normal single-task %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Composite Latency Score** | | |
| **B3TSMN** | SGST: normal single-task median RT (reaction time) | Latency (s)  98=REFUSED OR MISSING |
| **Reverse Single-task Trials: Composite Scores** | | |
| **Composite Accuracy Scores** | | |
| **B3TSTR** | SGST: reverse single-task #correct | 0-20  98=REFUSED OR MISSING |
| **B3TSVR** | SGST: reverse single-task #invalid | 0-20  98=REFUSED OR MISSING |
| **B3TSPR** | SGST: reverse single-task %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Composite Latency Score** | | |
| **B3TSMR** | SGST: reverse single-task median RT (reaction time) | Latency (s)  98=REFUSED OR MISSING |
| **Composite of Normal and Reverse Single-task** | | |
| **B3TSMB** | SGST: mean(B3TSMN, B3TSMR) | Latency (s)  98=REFUSED OR MISSING |

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| **Mixed-task Trials: Composite Accuracy Scores** | | |
| **Accuracy composite across normal nonswitch trials** | | |
| **B3TSTXNO** | SGST: mixed-task normal nonswitch trials #correct | 0-12  98=REFUSED OR MISSING |
| **B3TSVXNO** | SGST: mixed-task normal nonswitch trials #invalid | 0-12  98=REFUSED OR MISSING |
| **B3TSPXNO** | SGST: mixed-task normal nonswitch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composite across reverse nonswitch trials** | | |
| **B3TSTXRO** | SGST: mixed-task reverse nonswitch trials #correct | 0-11  98=REFUSED OR MISSING |
| **B3TSVXRO** | SGST: mixed-task reverse nonswitch trials #invalid | 0-11  98=REFUSED OR MISSING |
| **B3TSPXRO** | SGST: mixed-task reverse nonswitch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composites across all nonswitch trials** | | |
| **B3TSTXBO** | SGST: mixed-task nonswitch trials #correct | 0-23  98=REFUSED OR MISSING |
| **B3TSVXBO** | SGST: mixed-task nonswitch trials #invalid | 0-23  98=REFUSED OR MISSING |
| **B3TSPXBO** | SGST: mixed-task nonswitch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composite across normal switch trials** | | |
| **B3TSTXNS** | SGST: mixed-task normal switch trials #correct | 0-3  8=REFUSED OR MISSING |
| **B3TSVXNS** | SGST: mixed-task normal switch trials #invalid | 0-3  8=REFUSED OR MISSING |
| **B3TSPXNS** | SGST: mixed-task normal switch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composite across reverse switch trials** | | |
| **B3TSTXRS** | SGST: mixed-task reverse switch trials #correct | 0-3  8=REFUSED OR MISSING |
| **B3TSVXRS** | SGST: mixed-task reverse switch trials #invalid | 0-3  8=REFUSED OR MISSING |
| **B3TSPXRS** | SGST: mixed-task reverse switch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composite across all switch trials** | | |
| **B3TSTXBS** | SGST: mixed-task switch trials #correct | 0-6  8=REFUSED OR MISSING |
| **B3TSVXBS** | SGST: mixed-task switch trials #invalid | 0-6  8=REFUSED OR MISSING |
| **B3TSPXBS** | SGST: mixed-task switch trials %correct (ratio form) | 0-1.00  8=REFUSED OR MISSING |
| **Accuracy composites across all mixed-task trials** | | |
| **B3TSTXBB** | SGST: all mixed-task #correct | 0-29  98=REFUSED OR MISSING |
| **B3TSVXBB** | SGST: all mixed-task #invalid | 0-29  98=REFUSED OR MISSING |
| **B3TSPXBB** | SGST: all mixed-task %correct (ratio form) | 0-1.00  98=REFUSED OR MISSING |

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| **Mixed-task Trials: Composite Latency Scores** | | |
| **Latency composite across normal nonswitch trials** | | |
| **B3TSMXNO** | SGST: mixed-task normal nonswitch median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across reverse nonswitch trials** | | |
| **B3TSMXRO** | SGST: mixed-task reverse nonswitch median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across all nonswitch trials** | | |
| **B3TSMXBO** | SGST: mixed-task nonswitch trials median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across normal switch trials** | | |
| **B3TSMXNS** | SGST: mixed-task normal switch median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across reverse switch trials** | | |
| **B3TSMXRS** | SGST: mixed-task reverse switch median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across all switch trials** | | |
| **B3TSMXBS** | SGST: mixed-task switch trials median RT | Latency (s)  98=REFUSED OR MISSING |
| **Latency composite across all mixed-task trials** | | |
| **B3TSMXBB** | SGST: mean(B3TSMXBO, B3TSMXBS) | Latency (s)  98=REFUSED OR MISSING |

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| **Mixed-Task Trials: Switch Cost Scores** | | |
| **B3TSCGBA** | SGST: General Switch Cost, absolute (B3TSMXBB-B3TSMB) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCGBR** | SGST: General Switch Cost, relative (B3TSCGBA/B3TSMB) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCGNA** | SGST: General Switch Cost (normal), absolute [mean(B3TSMXNO, B3TSMXNS) – B3TSMN] | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCGNR** | SGST: General Switch Cost (normal), relative (B3TSCGNA/B3TSMN) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCGRA** | SGST: General Switch Cost (reverse), absolute [mean(B3TSMXRO, B3TSMXRS) – B3TSMR] | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCGRR** | SGST: General Switch Cost (reverse), relative (B3TSCGRA/ B3TSMR) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLBA** | SGST: Local Switch Cost, absolute (B3TSMXBS-B3TSMXBO) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLBR** | SGST: Local Switch Cost, relative (B3TSCLBA/B3TSMXBO) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLNA** | SGST: Local Switch Cost (normal), absolute (B3TSMXNS-B3TSMXNO) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLNR** | SGST: Local Switch Cost, (normal), relative (B3TSCLNA/B3TSMXNO) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLRA** | SGST: Local Switch Cost (reverse), absolute (B3TSMXRS-B3TSMXRO) | Latency (s)  98=REFUSED OR MISSING |
| **B3TSCLRR** | SGST: Local Switch Cost,(reverse), relative (B3TSCLRA/B3TSMXRO) | Latency (s)  98=REFUSED OR MISSING |

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| **Filters** | | |
| B3TSFV | SGST: Filter invalid cases (VALID) | 0=NOT SELECTED  1=SELECTED |
| B3TSFC | SGST: Filter cases with low accuracy or extreme latencies (CLEAN) | 0=NOT SELECTED  1=SELECTED |