EXHIBIT 5

AUDITED CONSOLIDATED ANNUAL FINANCIAL STATEMENTS

Financial Statements

Telephone and Data Systems, Inc.
Consolidated Statement of Operations

Year Ended December 31,	2016	2015	2014
(Dollars and shares in millions, except per share amounts)			
Operating revenues			
Service	$ 3,999	$ 4,322	$ 4,329
Equipment and product sales	1,105	854	680
Total operating revenues	5,104	5,176	5,009
Operating expenses			
Cost of services (excluding Depreciation, amortization and accretion reported below)	1,189	1,191	1,164
Cost of equipment and products	1,240	1,224	1,347
Selling, general and administrative	1,759	1,781	1,865
Depreciation, amortization and accretion	850	844	837
Loss on impairment of assets	–	–	88
(Gain) loss on asset disposals, net	27	22	27
(Gain) loss on sale of business and other exit costs, net	(1)	(136)	(16)
(Gain) loss on license sales and exchanges, net	(20)	(147)	(113)
Total operating expenses	5,044	4,779	5,199
Operating income (loss)	60	397	(190)
Investment and other income (expense)			
Equity in earnings of unconsolidated entities	140	140	132
Interest and dividend income	62	39	17
Interest expense	(170)	(142)	(111)
Other, net	–	1	–
Total investment and other income	32	38	38
Income (loss) before income taxes	92	435	(152)
Income tax expense (benefit)	40	172	(5)
Net income (loss)	52	263	(147)
Less: Net income (loss) attributable to noncontrolling interests, net of tax	9	44	(11)
Net income (loss) attributable to TDS shareholders	43	219	(136)
TDS Preferred dividend requirement	–	–	–
Net income (loss) available to TDS common shareholders	$ 43	$ 219	$ (136)
Basic weighted average shares outstanding	110	109	108
Basic earnings (loss) per share available to TDS common shareholders	$ 0.39	$ 2.02	$ (1.26)
Diluted weighted average shares outstanding	111	110	108
Diluted earnings (loss) per share available to TDS common shareholders	$ 0.39	$ 1.98	$ (1.26)
Dividends per share to TDS shareholders	$ 0.59	$ 0.56	$ 0.54

The accompanying notes are an integral part of these consolidated financial statements.

Telephone and Data Systems, Inc.
Consolidated Statement of Comprehensive Income (Loss)

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Net income (loss)	**$ 52**	$ 263	$ (147)
Net change in accumulated other comprehensive income (loss)			
Change in net unrealized gain on equity investments	**1**	–	–
Change related to retirement plan			
Amounts included in net periodic benefit cost for the period			
Net actuarial gains	**2**	1	11
Prior service cost	**–**	(7)	2
Amortization of prior service cost	**(2)**	(3)	(3)
Amortization of unrecognized net loss	**–**	–	1
	–	(9)	11
Change in deferred income taxes	**–**	3	(4)
Change related to retirement plan, net of tax	**–**	(6)	7
Net change in accumulated other comprehensive income (loss)	**1**	(6)	7
Comprehensive income (loss)	**53**	257	(140)
Less: Net income (loss) attributable to noncontrolling interests, net of tax	**9**	44	(11)
Comprehensive income (loss) attributable to TDS shareholders	**$ 44**	$ 213	$ (129)

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Telephone and Data Systems, Inc.
Consolidated Statement of Cash Flows

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Cash flows from operating activities			
Net income (loss)	**$ 52**	$ 263	$ (147)
Add (deduct) adjustments to reconcile net income (loss) to net cash flows from operating activities			
Depreciation, amortization and accretion	**850**	844	837
Bad debts expense	**102**	112	108
Stock-based compensation expense	**42**	40	36
Deferred income taxes, net	**22**	71	72
Equity in earnings of unconsolidated entities	**(140)**	(140)	(132)
Distributions from unconsolidated entities	**93**	60	112
Loss on impairment of assets	**–**	–	88
(Gain) loss on asset disposals, net	**27**	22	27
(Gain) loss on sale of business and other exit costs, net	**(1)**	(136)	(16)
(Gain) loss on license sales and exchanges, net	**(20)**	(147)	(113)
Noncash interest expense	**3**	3	2
Other operating activities	**(3)**	(1)	(1)
Changes in assets and liabilities from operations			
Accounts receivable	**(23)**	(120)	18
Equipment installment plans receivable	**(246)**	(134)	(189)
Inventory	**4**	115	(29)
Accounts payable	**36**	7	(117)
Customer deposits and deferred revenues	**(52)**	(36)	34
Accrued taxes	**60**	38	(123)
Accrued interest	**(1)**	4	1
Other assets and liabilities	**(23)**	(75)	(73)
Net cash provided by operating activities	**782**	790	395
Cash flows from investing activities			
Cash paid for additions to property, plant and equipment	**(636)**	(801)	(799)
Cash paid for acquisitions and licenses	**(53)**	(287)	(295)
Cash received from divestitures and exchanges	**21**	343	188
Cash received for investments	**–**	–	50
Federal Communications Commission deposit	**(143)**	–	(60)
Other investing activities	**3**	7	6
Net cash used in investing activities	**(808)**	(738)	(910)
Cash flows from financing activities			
Issuance of long-term debt	**2**	525	275
Repayment of long-term debt	**(12)**	(1)	(1)
Repayment of borrowing under revolving credit facility	**–**	–	(150)
Borrowing under revolving credit facility	**–**	–	150
TDS Common Shares reissued for benefit plans, net of tax payments	**9**	13	(2)
U.S. Cellular Common Shares reissued for benefit plans, net of tax payments	**6**	2	1
Repurchase of TDS Common Shares	**(3)**	–	(39)
Repurchase of U.S. Cellular Common Shares	**(5)**	(6)	(19)
Dividends paid to TDS shareholders	**(65)**	(61)	(58)
Payment of debt issuance costs	**(4)**	(13)	(10)
Distributions to noncontrolling interests	**(1)**	(6)	(1)
Payments to acquire additional interest in subsidiaries	**–**	(4)	–
Other financing activities	**14**	12	11
Net cash provided by (used in) financing activities	**(59)**	461	157
Net increase (decrease) in cash and cash equivalents	**(85)**	513	(358)
Cash and cash equivalents			
Beginning of period	**985**	472	830
End of period	**$ 900**	$ 985	$ 472

The accompanying notes are an integral part of these consolidated financial statements.

Telephone and Data Systems, Inc.
Consolidated Balance Sheet — Assets

December 31,		2016		2015
(Dollars in millions)				
Current assets				
Cash and cash equivalents	**$**	**900**	$	985
Accounts receivable				
Due from customers and agents, less allowances of $55 and $49, respectively		**753**		705
Other, less allowances of $2 and $1, respectively		**98**		98
Inventory, net		**151**		158
Prepaid expenses		**115**		112
Income taxes receivable		**10**		70
Other current assets		**32**		30
Total current assets		**2,059**		2,158
Assets held for sale		**8**		–
Licenses		**1,895**		1,844
Goodwill		**766**		766
Franchise rights		**244**		244
Other intangible assets, net of accumulated amortization of $153 and $144, respectively		**33**		47
Investments in unconsolidated entities		**451**		402
Other investments		**1**		–
Property, plant and equipment				
In service and under construction		**11,679**		11,520
Less: Accumulated depreciation and amortization		**8,124**		7,756
Property, plant and equipment, net		**3,555**		3,764
Other assets and deferred charges		**434**		197
Total assets[1]	**$**	**9,446**	$	9,422

The accompanying notes are an integral part of these consolidated financial statements.

Telephone and Data Systems, Inc.
Consolidated Balance Sheet — Liabilities and Equity

December 31,	2016	2015
(Dollars and shares in millions, except per share amounts)		
Current liabilities		
Current portion of long-term debt	**$ 12**	$ 14
Accounts payable	**365**	349
Customer deposits and deferred revenues	**229**	288
Accrued interest	**11**	12
Accrued taxes	**44**	41
Accrued compensation	**127**	113
Other current liabilities	**99**	127
Total current liabilities	**887**	944
Deferred liabilities and credits		
Deferred income tax liability, net	**922**	900
Other deferred liabilities and credits	**453**	433
Long-term debt, net	**2,433**	2,440
Commitments and contingencies		
Noncontrolling interests with redemption features	**1**	1
Equity		
TDS shareholders' equity		
Series A Common and Common Shares		
Authorized 290 shares (25 Series A Common and 265 Common Shares)		
Issued 133 shares (7 Series A Common and 126 Common Shares)		
Outstanding 110 shares (7 Series A Common and 103 Common Shares) and 109 shares (7 Series A Common and 102 Common Shares), respectively		
Par Value ($.01 per share)	**1**	1
Capital in excess of par value	**2,386**	2,365
Treasury shares, at cost, 23 and 24 Common Shares, respectively	**(698)**	(727)
Accumulated other comprehensive income	**1**	–
Retained earnings	**2,454**	2,487
Total TDS shareholders' equity	**4,144**	4,126
Preferred shares	**1**	1
Noncontrolling interests	**605**	577
Total equity	**4,750**	4,704
Total liabilities and equity[1]	**$ 9,446**	$ 9,422

The accompanying notes are an integral part of these consolidated financial statements.

1 The consolidated total assets as of December 31, 2016 and 2015 include assets held by consolidated VIEs of $804 million and $658 million, respectively, which are not available to be used to settle the obligations of TDS. The consolidated total liabilities as of December 31, 2016 and 2015 include certain liabilities of consolidated VIEs of $17 million and $1 million, respectively, for which the creditors of the VIEs have no recourse to the general credit of TDS. See Note 14 — Variable Interest Entities for additional information.

Telephone and Data Systems, Inc.
Consolidated Statement of Changes in Equity

	TDS Shareholders								
(Dollars in millions)	Series A Common and Common shares	Capital in excess of par value	Treasury shares	Accumulated other comprehensive income	Retained earnings	Total TDS shareholders' equity	Preferred shares	Noncontrolling interests	Total equity
December 31, 2015	**$ 1**	**$ 2,365**	**$ (727)**	**$ –**	**$ 2,487**	**$ 4,126**	**$ 1**	**$ 577**	**$ 4,704**
Add (Deduct)									
Net income attributable to TDS shareholders	–	–	–	–	43	43	–	–	43
Net income attributable to noncontrolling interests classified as equity	–	–	–	–	–	–	–	9	9
Other comprehensive income	–	–	–	1	–	1	–	–	1
TDS Common and Series A Common share dividends	–	–	–	–	(65)	(65)	–	–	(65)
Repurchase of Common shares	–	–	(3)			(3)			(3)
Dividend reinvestment plan		2	7	–	–	9	–	–	9
Incentive and compensation plans	–	(5)	25	–	(11)	9	–	–	9
Adjust investment in subsidiaries for repurchases, issuances and other compensation plans	–	7	–	–	–	7	–	20	27
Stock-based compensation awards	–	16	–	–	–	16	–	–	16
Tax windfall (shortfall) from stock awards	–	1	–	–	–	1	–	–	1
Distributions to noncontrolling interests	–	–	–	–	–	–	–	(1)	(1)
December 31, 2016	**$ 1**	**$ 2,386**	**$ (698)**	**$ 1**	**$ 2,454**	**$ 4,144**	**$ 1**	**$ 605**	**$ 4,750**

The accompanying notes are an integral part of these consolidated financial statements.

Telephone and Data Systems, Inc.
Consolidated Statement of Changes in Equity

(Dollars in millions)	Series A Common and Common shares (TDS Shareholders)	Capital in excess of par value (TDS Shareholders)	Treasury shares (TDS Shareholders)	Accumulated other comprehensive income (TDS Shareholders)	Retained earnings (TDS Shareholders)	Total TDS shareholders' equity (TDS Shareholders)	Preferred shares	Noncontrolling interests	Total equity
December 31, 2014	**$ 1**	**$ 2,337**	**$ (748)**	**$ 6**	**$ 2,330**	**$ 3,926**	**$ 1**	**$ 528**	**$ 4,455**
Add (Deduct)									
Net income attributable to TDS shareholders	–	–	–	–	219	219	–	–	219
Net income attributable to noncontrolling interests classified as equity	–	–	–	–	–	–	–	38	38
Other comprehensive loss	–	–	–	(6)	–	(6)	–	–	(6)
TDS Common and Series A Common Share dividends	–	–	–	–	(61)	(61)	–	–	(61)
Dividend reinvestment plan	–	3	9	–	–	12	–	–	12
Incentive and compensation plans	–	2	12	–	(1)	13	–	–	13
Adjust investment in subsidiaries for repurchases, issuances and other compensation plans	–	7	–	–	–	7	–	12	19
Stock-based compensation awards	–	16	–	–	–	16	–	–	16
Distributions to noncontrolling interests	–	–	–	–	–	–	–	(1)	(1)
December 31, 2015	**$ 1**	**$ 2,365**	**$ (727)**	**$ –**	**$ 2,487**	**$ 4,126**	**$ 1**	**$ 577**	**$ 4,704**

The accompanying notes are an integral part of these consolidated financial statements.

Telephone and Data Systems, Inc.
Consolidated Statement of Changes in Equity

	TDS Shareholders								
	Series A Common and Common shares	Capital in excess of par value	Treasury shares	Accumulated other comprehensive income (loss)	Retained earnings	Total TDS shareholders' equity	Preferred shares	Noncontrolling interests	Total equity
(Dollars in millions)									
December 31, 2013	**$ 1**	**$ 2,309**	**$ (721)**	**$ (1)**	**$ 2,530**	**$ 4,118**	**$ 1**	**$ 551**	**$ 4,670**
Add (Deduct)									
Net loss attributable to TDS shareholders	–	–	–	–	(136)	(136)	–	–	(136)
Net loss attributable to noncontrolling interests classified as equity	–	–	–	–	–	–	–	(12)	(12)
Other comprehensive income	–	–	–	7	–	7	–	–	7
TDS Common and Series A Common Share dividends	–	–	–	–	(58)	(58)	–	–	(58)
Repurchase of Common Shares	–	–	(39)	–	–	(39)	–	–	(39)
Dividend reinvestment plan	–	3	7	–	–	10	–	–	10
Incentive and compensation plans	–	(1)	5	–	(6)	(2)	–	–	(2)
Adjust investment in subsidiaries for repurchases, issuances and other compensation plans	–	12	–	–	–	12	–	(10)	2
Stock-based compensation awards	–	14	–	–	–	14	–	–	14
Distributions to noncontrolling interests	–	–	–	–	–	–	–	(1)	(1)
December 31, 2014	**$ 1**	**$ 2,337**	**$ (748)**	**$ 6**	**$ 2,330**	**$ 3,926**	**$ 1**	**$ 528**	**$ 4,455**

The accompanying notes are an integral part of these consolidated financial statements.

Note 1 Summary of Significant Accounting Policies and Recent Accounting Pronouncements

Nature of Operations

Telephone and Data Systems, Inc. (“TDS”) is a diversified telecommunications company providing high-quality communications services to customers with approximately 5.0 million wireless connections and 1.2 million wireline and cable connections at December 31, 2016. TDS conducts all of its wireless operations through its 83%-owned subsidiary, United States Cellular Corporation (“U.S. Cellular”). TDS provides wireline services, cable services and hosted and managed services through its wholly-owned subsidiary, TDS Telecommunications Corporation (“TDS Telecom”).

TDS has the following reportable segments: U.S. Cellular, Wireline, Cable, and Hosted and Managed Services (“HMS”) operations. TDS’ non-reportable other business activities are presented as “Corporate, Eliminations and Other”. This includes the operations of TDS’ wholly-owned subsidiary Suttle-Straus, Inc. (“Suttle-Straus”). Suttle-Straus’ financial results were not significant to TDS’ operations. All of TDS’ segments operate only in the United States, except for HMS, which includes an insignificant foreign operation. See Note 18 — Business Segment Information for summary financial information on each business segment.

Principles of Consolidation

The accounting policies of TDS conform to accounting principles generally accepted in the United States of America (“GAAP”) as set forth in the Financial Accounting Standards Board (“FASB”) Accounting Standards Codification (“ASC”). Unless otherwise specified, references to accounting provisions and GAAP in these notes refer to the requirements of the FASB ASC. The consolidated financial statements include the accounts of TDS, its majority-owned subsidiaries, general partnerships in which it has a majority partnership interest, and variable interest entities (“VIEs”) in which TDS is deemed the primary beneficiary. Both VIE and primary beneficiary represent terms defined by GAAP. See Note 14 — Variable Interest Entities for additional information relating to TDS’ VIEs. Intercompany accounts and transactions have been eliminated.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect (a) the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and (b) the reported amounts of revenues and expenses during the reported period. Actual results could differ from those estimates. Significant estimates are involved in accounting for goodwill and indefinite-lived intangible assets, income taxes and equipment installment plans.

Cash and Cash Equivalents

Cash and cash equivalents include cash and highly liquid investments with original maturities of three months or less.

Accounts Receivable and Allowance for Doubtful Accounts

U.S. Cellular’s accounts receivable consist primarily of amounts owed by customers for wireless services and equipment sales, including sales of certain devices under equipment installment plans, by agents for sales of equipment to them and by other wireless carriers whose customers have used U.S. Cellular’s wireless systems.

TDS Telecom’s accounts receivable primarily consist of amounts owed by customers for services and products provided, by interexchange carriers for long-distance traffic which TDS Telecom carries on its network, and by interstate and intrastate revenue pools that distribute access charges.

The allowance for doubtful accounts is the best estimate of the amount of probable credit losses related to existing billed and unbilled accounts receivable. The allowance is estimated based on historical experience, account aging and other factors that could affect collectability. Accounts receivable balances are reviewed on either an aggregate or individual basis for collectability depending on the type of receivable. When it is probable that an account balance will not be collected, the account balance is charged against the allowance for doubtful accounts. TDS does not have any off-balance sheet credit exposure related to its customers.

Inventory

Inventory consists primarily of wireless devices stated at the lower of cost or market, with cost determined using the first-in, first-out method and market determined by replacement cost or estimated net realizable value.

Licenses

Licenses consist of direct and incremental costs incurred in acquiring Federal Communications Commission ("FCC") licenses to provide wireless service.

TDS has determined that wireless licenses are indefinite-lived intangible assets and, therefore, not subject to amortization based on the following factors:

- Radio spectrum is not a depleting asset.
- The ability to use radio spectrum is not limited to any one technology.
- TDS and its consolidated subsidiaries are licensed to use radio spectrum through the FCC licensing process, which enables licensees to utilize specified portions of the spectrum for the provision of wireless service.
- TDS and its consolidated subsidiaries are required to renew their FCC licenses every ten years or, in some cases, every fifteen years. To date, all of TDS' license renewal applications have been granted by the FCC. Generally, license renewal applications filed by licensees otherwise in compliance with FCC regulations are routinely granted. If, however, a license renewal application is challenged either by a competing applicant for the license or by a petition to deny the renewal application, the license will be renewed if the licensee can demonstrate its entitlement to a "renewal expectancy." Licensees are entitled to such an expectancy if they can demonstrate to the FCC that they have provided "substantial service" during their license term and have "substantially complied" with FCC rules and policies. TDS believes that it is probable that its future license renewal applications will be granted.

U.S. Cellular performs its annual impairment assessment of Licenses as of November 1 of each year or more frequently if there are events or circumstances that cause U.S. Cellular to believe the carrying value of Licenses exceeds their fair value on a more likely than not basis. For purposes of its 2016 and 2015 impairment testing of Licenses, U.S. Cellular separated its FCC licenses into eight units of accounting. The eight units of accounting consisted of one unit of accounting for developed operating market licenses ("built licenses") and seven geographic non-operating market licenses ("unbuilt licenses").

As of November 1, 2016 and 2015, U.S. Cellular performed a qualitative impairment assessment to determine whether it was more likely than not that the fair value of the built and unbuilt licenses exceed their carrying value. Based on the impairment assessments performed, U.S. Cellular did not have an impairment of its Licenses in 2016 or 2015. See Note 7 — Intangible Assets for additional details related to Licenses.

Goodwill

TDS has Goodwill as a result of its acquisition of wireless, wireline, cable and HMS companies and, under previous business combination guidance in effect prior to 2009, step acquisitions related to U.S. Cellular's repurchase of its common shares. Such Goodwill represents the excess of the total purchase price over the fair value of net assets acquired in these transactions. TDS performs its annual impairment assessment of Goodwill as of November 1 of each year or more frequently if there are events or circumstances that cause TDS to believe the carrying value of individual reporting units exceeds their respective fair values on a more likely than not basis. See Note 7 — Intangible Assets for additional details related to Goodwill.

U.S. Cellular

For purposes of conducting its annual Goodwill impairment test as of November 1, 2016 and 2015, U.S. Cellular identified one reporting unit. A discounted cash flow approach was used to value the reporting unit for purposes of the Goodwill impairment review. Based upon the impairment assessments performed, U.S. Cellular did not have an impairment of its Goodwill in 2016 or 2015.

TDS Telecom

For purposes of conducting its annual Goodwill impairment test as of November 1, 2016 and 2015, TDS Telecom identified three reporting units: Wireline, Cable and HMS. The discounted cash flow approach and guideline public company method were used to value the Wireline, Cable and HMS reporting units for the 2016 and 2015 annual impairment tests. Based on the impairment assessments performed, Wireline, Cable and HMS did not have an impairment of their Goodwill in 2016 or 2015.

Franchise Rights

TDS Telecom has Franchise rights as a result of acquisitions of cable businesses. Franchise rights are intangible assets that provide their holder with the right to operate a business in a certain geographical location as sanctioned by the franchiser, usually a government agency. Cable Franchise rights are generally granted for ten year periods and may be renewed for additional terms upon approval by the granting authority. TDS anticipates that future renewals of its Franchise rights will be granted. TDS has determined that Franchise rights are indefinite-lived intangible assets and, therefore, not subject to amortization because TDS expects both the renewal by the granting authorities and the cash flows generated from the Franchise rights to continue indefinitely.

TDS Telecom performs its annual impairment assessment of Franchise rights as of November 1 of each year or more frequently if there are events or circumstances that cause TDS Telecom to believe the carrying value of Franchise rights exceeds their fair value on a more likely than not basis. TDS Telecom tests Franchise rights for impairment at a unit of accounting level for which one unit of accounting was identified. TDS Telecom estimates the fair value of Franchise rights for purposes of impairment testing using the build-out (or Greenfield) method. Based on the impairment assessments performed, TDS Telecom did not have an impairment of Franchise rights in 2016 or 2015. See Note 7 — Intangible Assets for additional details related to Franchise rights.

Investments in Unconsolidated Entities

For its equity method investments for which financial information is readily available, TDS records its equity in the earnings of the entity in the current period. For its equity method investments for which financial information is not readily available, TDS records its equity in the earnings of the entity on a one quarter lag basis.

Property, Plant and Equipment

Property, plant and equipment is stated at the original cost of construction or purchase including capitalized costs of certain taxes, payroll-related expenses, interest and estimated costs to remove the assets.

Expenditures that enhance the productive capacity of assets in service or extend their useful lives are capitalized and depreciated. Expenditures for maintenance and repairs of assets in service are charged to Cost of services or Selling, general and administrative expense, as applicable. Retirements and disposals of assets are recorded by removing the original cost of the asset (along with the related accumulated depreciation) from plant in service and charging it, together with net removal costs (removal costs less an applicable accrued asset retirement obligation and salvage value realized), to (Gain) loss on asset disposals, net. Certain Wireline segment assets use the group depreciation method. Accordingly, when a group method asset is retired in the ordinary course of business, the original cost of the asset and accumulated depreciation in the same amount are removed, with no gain or loss recognized on the disposition.

TDS capitalizes certain costs of developing new information systems.

Depreciation and Amortization

Depreciation is provided using the straight-line method over the estimated useful life of the related asset, except for certain Wireline segment assets, which use the group depreciation method. The group depreciation method develops a depreciation rate based on the average useful life of a specific group of assets, rather than each asset individually. TDS depreciates leasehold improvement assets associated with leased properties over periods ranging from one to thirty years; such periods approximate the shorter of the assets' economic lives or the specific lease terms.

Useful lives of specific assets are reviewed throughout the year to determine if changes in technology or other business changes would warrant accelerating the depreciation of those specific assets. There were no material changes to useful lives of property, plant and equipment in 2016, 2015 or 2014. See Note 9 — Property, Plant and Equipment for additional details related to useful lives.

Impairment of Long-Lived Assets

TDS reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the assets might be impaired.

U.S. Cellular has one asset group for purposes of assessing property, plant and equipment for impairment based on the fact that the individual operating markets are reliant on centrally operated data centers, mobile telephone switching offices and a network operations center. U.S. Cellular operates a single integrated national wireless network, and the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities represent cash flows generated by this single interdependent network.

TDS Telecom has three asset groups of Wireline, Cable and HMS for purposes of assessing property, plant and equipment for impairment based on their integrated network, assets and operations. The cash flows generated by each of these groups is the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities.

Agent Liabilities

U.S. Cellular has relationships with agents, which are independent businesses that obtain customers for U.S. Cellular. At December 31, 2016 and 2015, U.S. Cellular had accrued $57 million and $76 million, respectively, for amounts due to agents. These amounts are included in Other current liabilities in the Consolidated Balance Sheet.

Debt Issuance Costs

Debt issuance costs include underwriters' and legal fees and other charges related to issuing various borrowing instruments and other long-term agreements, and are amortized over the respective term of each instrument. TDS presents certain debt issuance costs in the balance sheet as an offset to the related debt obligation. Debt issuance costs related to TDS and U.S. Cellular's revolving credit facilities are recorded in Other assets and deferred charges in the Consolidated Balance Sheet.

Asset Retirement Obligations

TDS accounts for asset retirement obligations by recording the fair value of a liability for legal obligations associated with an asset retirement in the period in which the obligations are incurred. At the time the liability is incurred, TDS records a liability equal to the net present value of the estimated cost of the asset retirement obligation and increases the carrying amount of the related long-lived asset by an equal amount. Until the obligation is fulfilled, TDS updates its estimates relating to cash flows required and timing of settlement. TDS records the present value of the changes in the future value as an increase or decrease to the liability and the related carrying amount of the long-lived asset. The liability is accreted to future value over a period ending with the estimated settlement date of the respective asset retirement obligation. The carrying amount of the long-lived asset is depreciated over the useful life of the related asset. Upon settlement of the obligation, any difference between the cost to retire the asset and the recorded liability is recognized in the Consolidated Statement of Operations.

Treasury Shares

Common Shares repurchased by TDS are recorded at cost as treasury shares and result in a reduction of equity. When treasury shares are reissued, TDS determines the cost using the first-in, first-out cost method. The difference between the cost of the treasury shares and reissuance price is included in Capital in excess of par value or Retained earnings.

Revenue Recognition

Revenues related to services are recognized as services are rendered. Revenues billed in advance or in arrears of the services being provided are estimated and deferred or accrued, as appropriate. Revenues from sales of equipment, products and accessories are recognized when TDS no longer has any requirements to perform, when title has passed and when the products are accepted by the customer.

Multiple Deliverable Arrangements

U.S. Cellular and TDS Telecom sell multiple element service and equipment offerings. In these instances, revenues are allocated using the relative selling price method. Under this method, arrangement consideration is allocated to each element on the basis of its relative selling price. Revenue recognized for the delivered items is limited to the amount due from the customer that is not contingent upon the delivery of additional products or services.

Loyalty Reward Program

In March 2015, U.S. Cellular announced that it would discontinue its loyalty reward program effective September 1, 2015. All unredeemed reward points expired at that time and the deferred revenue balance of $58 million related to such expired points was recognized as service revenues.

U.S. Cellular followed the deferred revenue method of accounting for its loyalty reward program. Under this method, revenue allocated to loyalty reward points was deferred. The amount allocated to the loyalty points was based on the estimated retail price of the products and services for which points were redeemable divided by the number of loyalty points required to receive such products and services. This was calculated on a weighted average basis and required U.S. Cellular to estimate the percentage of loyalty points that would be redeemed for each product or service.

Revenue was recognized at the time of customer redemption or when such points were depleted via an account maintenance charge. U.S. Cellular employed the proportional model to recognize revenues associated with breakage. Under the proportional model, U.S. Cellular allocated a portion of the estimated future breakage to each redemption and recorded revenue proportionally.

Equipment Installment Plans

U.S. Cellular equipment revenue under equipment installment plan contracts is recognized at the time the device is delivered to the end-user customer for the selling price of the device, net of any deferred imputed interest or trade-in right, if applicable. Imputed interest is reflected as a reduction to the receivable balance and recognized over the duration of the plan as a component of Interest and dividend income. See Note 3 — Equipment Installment Plans for additional information.

Incentives

Discounts and incentives that are deemed cash are recognized as a reduction of Operating revenues concurrently with the associated revenue.

U.S. Cellular issues rebates to its agents and end customers. These incentives are recognized as a reduction to revenue at the time the wireless device sale to the customer occurs. The total potential rebates and incentives are reduced by U.S. Cellular's estimate of rebates that will not be redeemed by customers based on historical experience of such redemptions.

Activation Fees

TDS charges its end customers activation fees in connection with the sale of certain services and equipment. Activation fees charged by TDS Telecom in conjunction with a service offering are deferred and recognized over the average customer's service period. Device activation fees charged at both agent locations and U.S. Cellular company-owned retail stores in connection with equipment installment plan device transactions are deferred and recognized over a period that corresponds with the equipment upgrade eligibility date based on the contract terms. Device activation fees charged at U.S. Cellular agent locations in connection with subsidized device sales are deferred and recognized over a period that corresponds with the length of the customer's service contract. Device activation fees charged at U.S. Cellular company-owned retail stores in connection with subsidized device sales are recognized at the time the device is delivered to the customer.

Amounts Collected from Customers and Remitted to Governmental Authorities

TDS records amounts collected from customers and remitted to governmental authorities on a net basis within a tax liability account if the tax is assessed upon the customer and TDS merely acts as an agent in collecting the tax on behalf of the imposing governmental authority. If the tax is assessed upon TDS, then amounts collected from customers as recovery of the tax are recorded in Service revenues and amounts remitted to governmental authorities are recorded in Selling, general and administrative expenses in the Consolidated Statement of Operations. The amounts recorded gross in revenues that are billed to customers and remitted to governmental authorities totaled $85 million, $95 million and $113 million for 2016, 2015 and 2014, respectively.

Wholesale Revenues

TDS Telecom earns wholesale revenues in its Wireline segment as a result of its participation in revenue pools with other telephone companies for interstate revenue and for certain intrastate revenue. Such pools are funded by long distance revenue and/or access charges within state jurisdictions and by access charges in the interstate jurisdiction. Wholesale revenues earned through the various pooling processes are recorded based on estimates following the National Exchange Carrier Association's rules as approved by the FCC.

Eligible Telecommunications Carrier ("ETC") Revenues

Telecommunications companies may be designated by states, or in some cases by the FCC, as an ETC to receive support payments from the Universal Service Fund if they provide specified services in "high cost" areas. ETC revenues recognized in the reporting period represent the amounts which U.S. Cellular is entitled to receive for such period, as determined and approved in connection with U.S. Cellular's designation as an ETC in various states.

Advertising Costs

TDS expenses advertising costs as incurred. Advertising costs totaled $263 million, $268 million and $228 million in 2016, 2015 and 2014, respectively.

Income Taxes

TDS files a consolidated federal income tax return. Deferred taxes are computed using the liability method, whereby deferred tax assets are recognized for future deductible temporary differences and operating loss carryforwards, and deferred tax liabilities are recognized for future taxable temporary differences. Both deferred tax assets and liabilities are measured using the tax rates anticipated to be in effect when the temporary differences reverse. Temporary differences are the differences between the reported amounts of assets and liabilities and their tax bases. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment. Deferred tax assets are reduced by a valuation allowance when it is more likely than not that some portion or all of the deferred tax assets will not be realized. TDS evaluates income tax uncertainties, assesses the probability of the ultimate settlement with the applicable taxing authority and records an amount based on that assessment. Deferred taxes are reported as a net non-current asset or liability by jurisdiction. Any corresponding valuation allowance to reduce the amount of deferred tax assets is also recorded as non-current.

Stock-Based Compensation and Other Plans

TDS has established long-term incentive plans, dividend reinvestment plans, and a non-employee director compensation plan. The dividend reinvestment plan of TDS is not considered a compensatory plan and, therefore, recognition of compensation costs for grants made under this plan is not required. All other plans are considered compensatory plans; therefore, recognition of compensation costs for grants made under these plans is required.

TDS recognizes stock compensation expense based upon the fair value of the specific awards granted using established valuation methodologies. The amount of stock compensation cost recognized on either a straight-line basis or graded attribution method is based on the portion of the award that is expected to vest over the requisite service period which generally represents the vesting period. Stock-based compensation cost recognized has been reduced for estimated forfeitures. Forfeitures are estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. See Note 17 — Stock-Based Compensation for additional information.

Recently Issued Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09") and has since amended the standard with Accounting Standards Update 2015-14, *Revenue from Contracts with Customers: Deferral of the Effective Date*, Accounting Standards Update 2016-08, *Revenue from Contracts with Customers: Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*, Accounting Standards Update 2016-10, *Revenue from Contracts with Customers: Identifying Performance Obligations and Licensing*, Accounting Standards Update 2016-12, *Revenue from Contracts with Customers: Narrow-Scope Improvements and Practical Expedients,* and Accounting Standards Update 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*. These standards replace existing revenue recognition rules with a single comprehensive model to use in accounting for revenue arising from contracts with customers. TDS is required to adopt ASU 2014-09, as amended, on January 1, 2018. Early adoption as of January 1, 2017 is permitted; however, TDS did not adopt early. ASU 2014-09, as amended, impacts TDS' revenue recognition related to the allocation of contract revenues between various services and equipment, and the timing of when those revenues are recognized. In addition, ASU 2014-09 requires deferral of incremental contract acquisition and fulfillment costs and subsequent expense recognition over the contract period or expected customer life. TDS has identified that new systems, processes and controls are required to adopt ASU 2014-09, as amended. TDS has substantially completed the design and development of new systems to perform revenue recognition accounting under the provisions of ASU 2014-09, as amended, and is currently engaged in the process of testing these new systems. TDS expects to transition to the new standard under the modified retrospective transition method whereby a cumulative effect adjustment is recognized upon adoption and the guidance is applied prospectively. Upon adoption, the cumulative effect adjustment is expected to include the establishment of contract asset and contract liability accounts with a corresponding adjustment to retained earnings to reflect the reallocation of revenues between service and equipment. Reallocation impacts generally arise when bundle discounts are provided in a contract arrangement that includes equipment and service performance obligations. In these cases, the revenue will be reallocated according to the relative stand-alone selling prices of the performance obligations included in the bundle and this may be different than how the revenue is billed to the customer and recognized under current guidance. In addition, contract cost assets will be established to reflect costs that will be deferred as incremental contract acquisition and fulfillment costs. Incremental contract acquisition costs generally relate to commission costs paid to sales associates while fulfillment costs are generally related to service installation costs on the wireline and cable business. TDS is evaluating the full effects that adoption of ASU 2014-09, as amended, will have on its financial position and results of operations.

In July 2015, the FASB issued Accounting Standards Update 2015-11, *Inventory: Simplifying the Measurement of Inventory* ("ASU 2015-11"), which requires inventory to be measured at the lower of cost or net realizable value. TDS adopted ASU 2015-11 on January 1, 2017. The adoption of ASU 2015-11 will not have a significant impact on TDS' financial position or results of operations.

In January 2016, the FASB issued Accounting Standards Update 2016-01, *Financial Instruments – Overall: Recognition and Measurement of Financial Assets and Financial Liabilities* ("ASU 2016-01"). This ASU introduces changes to current accounting for equity investments and financial liabilities under the fair value option and the presentation and disclosure requirements for financial instruments. TDS is required to adopt ASU 2016-01 on January 1, 2018. Certain provisions are eligible for early adoption. The adoption of ASU 2016-01 is not expected to have a significant impact on TDS' financial position or results of operations.

In February 2016, the FASB issued Accounting Standards Update 2016-02, *Leases* ("ASU 2016-02"). ASU 2016-02 requires lessees to record a right-of-use asset and lease liability for almost all leases. This ASU does not substantially impact lessor accounting. TDS is required to adopt ASU 2016-02 on January 1, 2019. Early adoption is permitted. Upon adoption of ASU 2016-02, TDS expects a substantial increase to assets and liabilities on its balance sheet. TDS is evaluating the full effects that adoption of ASU 2016-02 will have on its financial position and results of operations.

In March 2016, the FASB issued Accounting Standards Update 2016-04, *Liabilities – Extinguishments of Liabilities: Recognition of Breakage from Certain Prepaid Stored-Value Products* ("ASU 2016-04"). ASU 2016-04 requires companies that sell prepaid stored-value products redeemable for goods, services or cash at third-party merchants to recognize breakage (i.e., the value that is ultimately not redeemed by the consumer) in a way that is consistent with how it will be recognized under the new revenue recognition standard. TDS is required to adopt ASU 2016-04 on January 1, 2018. Early adoption is permitted. The adoption of ASU 2016-04 is not expected to have a significant impact on TDS' financial position or results of operations.

In March 2016, the FASB issued Accounting Standards Update 2016-09, *Compensation – Stock Compensation: Improvements to Employee Share-Based Payment Accounting* ("ASU 2016-09"). ASU 2016-09 intends to simplify the accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities, and classification on the statement of cash flows. TDS adopted ASU 2016-09 on January 1, 2017. Upon adoption, TDS will no longer record adjustments in Capital in excess of par value relating to the tax consequences of share-based payment transactions. Future tax windfalls and shortfalls will be recognized as discrete items within Income tax expense (benefit) on the Consolidated Statement of Operations in the period in which they occur. TDS has elected to continue to reduce stock compensation expense for estimated forfeitures. TDS' adoption of this standard is not expected to have a significant impact on its financial position or results of operations, except as it relates to income tax expense, which will be directly impacted in future periods upon the exercise of stock options and the vesting of restricted stock awards.

In June 2016, the FASB issued Accounting Standards Update 2016-13, *Financial Instruments – Credit Losses: Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"). ASU 2016-13 requires entities to use a new forward-looking, expected loss model to estimate credit losses. It also requires additional disclosure relating to the credit quality of trade and other receivables, including information relating to management's estimate of credit allowances. TDS is required to adopt ASU 2016-13 on January 1, 2020. Early adoption as of January 1, 2019 is permitted. TDS is evaluating the effects that adoption of ASU 2016-13 will have on its financial position, results of operations and disclosures.

In August 2016, the FASB issued Accounting Standards Update 2016-15, *Statement of Cash Flows: Classification of Certain Cash Receipts and Cash Payments* ("ASU 2016-15"). ASU 2016-15 provides guidance on eight targeted cash flow classification issues. TDS adopted ASU 2016-15 on December 31, 2016. TDS has historically followed the guidance prescribed by ASU 2016-15 for past transactions and therefore the adoption of ASU 2016-15 had no impact on TDS' statement of cash flows.

In October 2016, the FASB issued Accounting Standards Update 2016-16, *Income Taxes: Intra-Entity Transfers of Assets Other Than Inventory* ("ASU 2016-16"). ASU 2016-16 impacts the accounting for the income tax consequences of intra-entity transfers of assets other than inventory when the transfer occurs between entities in different tax jurisdictions. TDS is required to adopt ASU 2016-16 on January 1, 2018. Early adoption is permitted. The adoption of ASU 2016-16 is not expected to have a significant impact on TDS' financial position or results of operations.

In October 2016, the FASB issued Accounting Standards Update 2016-17, *Consolidation: Interests Held through Related Parties That Are under Common Control* ("ASU 2016-17"). ASU 2016-17 provides guidance on how a reporting entity that is the single decision maker of a VIE should treat indirect interests in an entity held through related parties that are under common control. TDS adopted ASU 2016-17 on January 1, 2017. The adoption of ASU 2016-17 will not have an impact on TDS' financial position or results of operations.

In November 2016, the FASB issued Accounting Standards Update 2016-18, *Statement of Cash Flows: Restricted Cash* ("ASU 2016-18"). ASU 2016-18 provides guidance on the placement and reconciliation of restricted cash in the statement of cash flows. TDS is required to adopt ASU 2016-18 on January 1, 2018. Early adoption is permitted. The adoption of ASU 2016-18 is not expected to have a significant impact on TDS' statement of cash flows.

In January 2017, the FASB issued Accounting Standards Update 2017-01, *Business Combinations: Clarifying the Definition of a Business* ("ASU 2017-01"). ASU 2017-01 clarifies the definition of a business to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. TDS is required to adopt ASU 2017-01 on January 1, 2018. TDS adopted ASU 2017-01 on January 1, 2017. The adoption of ASU 2017-01 did not have an impact on TDS' financial position or results of operations, but it may impact the accounting for future acquisitions and dispositions of businesses and assets.

In January 2017, the FASB issued Accounting Standards Update 2017-04, *Intangibles — Goodwill and Other: Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"). ASU 2017-04 eliminates Step 2 of the current goodwill impairment test. Goodwill impairment loss will be measured as the amount by which a reporting unit's carrying amount exceeds its fair value. TDS is required to adopt ASU 2017-04 on January 1, 2020. Early adoption is permitted. TDS is assessing whether it will early adopt ASU 2017-04. ASU 2017-04 could impact TDS' results of operations upon early adoption or the effective date should any of its reporting units fail the goodwill impairment test.

Note 2 Fair Value Measurements

As of December 31, 2016 and 2015, TDS did not have any material financial or nonfinancial assets or liabilities that were required to be recorded at fair value in its Consolidated Balance Sheet in accordance with GAAP.

The provisions of GAAP establish a fair value hierarchy that contains three levels for inputs used in fair value measurements. Level 1 inputs include quoted market prices for identical assets or liabilities in active markets. Level 2 inputs include quoted market prices for similar assets and liabilities in active markets or quoted market prices for identical assets and liabilities in inactive markets. Level 3 inputs are unobservable. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. A financial instrument's level within the fair value hierarchy is not representative of its expected performance or its overall risk profile and, therefore, Level 3 assets are not necessarily higher risk than Level 2 assets or Level 1 assets.

TDS has applied the provisions of fair value accounting for purposes of computing the fair value of financial instruments for disclosure purposes as displayed below.

	Level within the Fair Value Hierarchy	December 31, 2016		December 31, 2015	
		Book Value	**Fair Value**	Book Value	Fair Value
(Dollars in millions)					
Cash and cash equivalents	1	**$ 900**	**$ 900**	$ 985	$ 985
Long-term debt					
Retail	2	**1,753**	**1,741**	1,753	1,766
Institutional	2	**533**	**532**	533	501
Other	2	**208**	**207**	216	215

The fair value of Cash and cash equivalents approximates the book value due to the short-term nature of these financial instruments. Long-term debt excludes capital lease obligations and the current portion of Long-term debt. The fair value of "Retail" Long-term debt was estimated using market prices for TDS' 7.0% Senior Notes, 6.875% Senior Notes, 6.625% Senior Notes and 5.875% Senior Notes, and U.S. Cellular's 6.95% Senior Notes, 7.25% 2063 Senior Notes and 7.25% 2064 Senior Notes. TDS' "Institutional" debt consists of U.S. Cellular's 6.7% Senior Notes which are traded over the counter. TDS' "Other" debt consists of a senior term loan credit facility and other borrowings with financial institutions. TDS estimated the fair value of its Institutional and Other debt through a discounted cash flow analysis using the interest rates or estimated yield to maturity for each borrowing, which ranged from 0.00% to 6.93% and 0.00% to 7.51% at December 31, 2016 and 2015, respectively.

Note 3 Equipment Installment Plans

TDS sells devices to customers under equipment installment contracts over a specified time period. For certain equipment installment plans, after a specified period of time or amount of payments, the customer may have the right to upgrade to a new device and have the remaining unpaid equipment installment contract balance waived, subject to certain conditions, including trading in the original device in good working condition and signing a new equipment installment contract. TDS values this trade-in right as a guarantee liability. The guarantee liability is initially measured at fair value and is determined based on assumptions including the probability and timing of the customer upgrading to a new device and the fair value of the device being traded-in at the time of trade-in. As of December 31, 2016 and 2015, the guarantee liability related to these plans was $33 million and $93 million, respectively, and is reflected in Customer deposits and deferred revenues in the Consolidated Balance Sheet.

TDS equipment installment plans do not provide for explicit interest charges. Because equipment installment plans have a duration of greater than twelve months, TDS imputes interest. TDS records imputed interest as a reduction to the related accounts receivable and it is recognized over the term of the installment agreement. Equipment installment plan receivables had a weighted average effective imputed interest rate of 11.2% and 9.7% as of December 31, 2016 and 2015, respectively.

The following table summarizes equipment installment plan receivables as of December 31, 2016 and 2015.

December 31,	**2016**	2015
(Dollars in millions)		
Equipment installment plan receivables, gross	**$ 628**	$ 381
Deferred interest	**(53)**	(23)
Equipment installment plan receivables, net of deferred interest	**575**	358
Allowance for credit losses	**(50)**	(26)
Equipment installment plan receivables, net	**$ 525**	$ 332
Net balance presented in the Consolidated Balance Sheet as:		
Accounts receivable — Due from customers and agents (Current portion)	**$ 345**	$ 264
Other assets and deferred charges (Non-current portion)	**180**	68
Equipment installment plan receivables, net	**$ 525**	$ 332

TDS uses various inputs, including internal data, information from the credit bureaus and other sources, to evaluate the credit profiles of its customers. From this evaluation, a credit class is assigned to the customer that determines the number of eligible lines, the amount of credit available, and the down payment requirement, if any. Customers assigned to credit classes requiring no down payment represent a lower risk category, whereas those assigned to credit classes requiring a down payment represent a higher risk category. The balance and aging of the equipment installment plan receivables on a gross basis by credit category were as follows:

	December 31, 2016			December 31, 2015		
	Lower Risk	**Higher Risk**	**Total**	Lower Risk	Higher Risk	Total
(Dollars in millions)						
Unbilled	**$ 553**	**$ 38**	**$ 591**	$ 343	$ 11	$ 354
Billed — current	**23**	**2**	**25**	17	1	18
Billed — past due	**10**	**2**	**12**	8	1	9
Equipment installment plan receivables, gross	**$ 586**	**$ 42**	**$ 628**	$ 368	$ 13	$ 381

The activity in the allowance for credit losses balance for the equipment installment plan receivables was as follows:

	2016	2015
(Dollars in millions)		
Allowance for credit losses, beginning of year	**$ 26**	$ 10
Bad debts expense	**63**	49
Write-offs, net of recoveries	**(39)**	(33)
Allowance for credit losses, end of year	**$ 50**	$ 26

TDS recorded out-of-period adjustments in 2016 due to errors related to equipment installment plan transactions occurring in 2015 ("2016 EIP adjustments"). The 2016 EIP adjustments had the impact of increasing Equipment and product sales revenues by $2 million, decreasing bad debts expense, which is a component of Selling, general and administrative expense, by $2 million and increasing Income before income taxes by $4 million in 2016. Additionally, TDS recorded out-of-period adjustments in 2015 due to errors related to equipment installment plan transactions ("2015 EIP adjustments") that were attributable to 2014. The 2015 EIP adjustments had the impact of reducing Equipment and product sales revenues and Income before income taxes by $6 million in 2015. TDS has determined that these adjustments were not material to any of the periods impacted.

Note 4 Income Taxes

TDS' current income taxes balances at December 31, 2016 and 2015 were as follows:

December 31,	**2016**	2015
(Dollars in millions)		
Federal income taxes receivable (payable)	**$ 7**	$ 67
Net state income taxes receivable (payable)	**3**	3

Income tax expense (benefit) is summarized as follows:

Year Ended December 31,	**2016**	2015	2014
(Dollars in millions)			
Current			
Federal	**$ 17**	$ 93	$ (88)
State	**1**	8	11
Deferred			
Federal	**20**	61	43
Federal - valuation allowance adjustment	**–**	–	(11)
State	**2**	10	2
State - valuation allowance adjustment	**–**	–	38
Total income tax expense (benefit)	**$ 40**	$ 172	$ (5)

A reconciliation of TDS' income tax expense computed at the statutory rate to the reported income tax expense, and the statutory federal income tax expense rate to TDS' effective income tax expense rate is as follows:

Year Ended December 31,	2016		2015		2014	
	Amount	**Rate**	Amount	Rate	Amount	Rate
(Dollars in millions)						
Statutory federal income tax expense and rate	**$ 32**	**35.0 %**	$ 152	35.0 %	$ (53)	35.0 %
State income taxes, net of federal benefit[1]	**2**	**2.5**	11	2.5	43	(28.1)
Effect of noncontrolling interests	**(1)**	**(0.8)**	3	0.6	(6)	3.8
Change in federal valuation allowance[2]	**2**	**2.6**	2	0.5	(9)	5.7
Goodwill impairment[3]	**–**	**–**	–	–	18	(12.0)
Nondeductible compensation	**3**	**2.7**	1	0.2	1	(1.0)
Other differences, net	**2**	**1.2**	3	0.8	1	(0.2)
Total income tax expense (benefit) and rate	**$ 40**	**43.2 %**	$ 172	39.6 %	$ (5)	3.2 %

1 State income taxes, net of federal benefit, include changes in unrecognized tax benefits as well as adjustments to the valuation allowance. During the third quarter of 2014, TDS recorded a $38 million increase to income tax expense related to a valuation allowance recorded against certain state deferred tax assets.

2 Change in federal valuation allowance in 2015 and 2016 relates primarily to losses incurred by certain entities where realization of deferred tax assets is not "more likely than not." The change in federal valuation allowance in 2014 was due to a valuation allowance reduction for federal net operating losses previously limited under loss utilization rules.

3 Goodwill impairment reflects an adjustment to increase income tax expense by $18 million related to a portion of the goodwill impairment of Suttle-Straus and the HMS reporting unit recorded in 2014 which is nondeductible for income tax purposes. See Note 7 — Intangible Assets for additional information related to the goodwill impairment.

Significant components of TDS' deferred income tax assets and liabilities at December 31, 2016 and 2015 were as follows:

December 31,	2016	2015
(Dollars in millions)		
Deferred tax assets		
Net operating loss ("NOL") carryforwards	**$ 145**	$ 138
Stock-based compensation	**62**	62
Compensation and benefits - other	**35**	38
Deferred rent	**23**	20
Other	**73**	92
Total deferred tax assets	**338**	350
Less valuation allowance	**(122)**	(113)
Net deferred tax assets	**216**	237
Deferred tax liabilities		
Property, plant and equipment	**639**	672
Licenses/intangibles	**325**	301
Partnership investments	**173**	163
Total deferred tax liabilities	**1,137**	1,136
Net deferred income tax liability	**$ 921**	$ 899
Presented in the Consolidated Balance Sheet as:		
Deferred income tax liability, net	**$ 922**	$ 900
Other assets and deferred charges	**(1)**	(1)
Net deferred income tax liability	**$ 921**	$ 899

At December 31, 2016, TDS and certain subsidiaries had $2,691 million of state NOL carryforwards (generating a $121 million deferred tax asset) available to offset future taxable income. The state NOL carryforwards expire between 2017 and 2036. Certain subsidiaries had federal NOL carryforwards (generating a $24 million deferred tax asset) available to offset their future taxable income. The federal NOL carryforwards expire between 2018 and 2036. A valuation allowance was established for certain state NOL carryforwards and federal NOL carryforwards since it is more likely than not that a portion of such carryforwards will expire before they can be utilized.

A summary of TDS' deferred tax asset valuation allowance is as follows:

	2016	2015	2014
(Dollars in millions)			
Balance at beginning of year	**$ 113**	$ 114	$ 79
Charged (credited) to income tax expense	**9**	(1)	35
Balance at end of year	**$ 122**	$ 113	$ 114

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	2016	2015	2014
(Dollars in millions)			
Unrecognized tax benefits balance at beginning of year	**$ 39**	$ 38	$ 30
Additions for tax positions of current year	**11**	7	8
Additions for tax positions of prior years	**3**	2	1
Reductions for tax positions of prior years	**(1)**	(2)	(1)
Reductions for settlements of tax positions	**–**	(1)	–
Reductions for lapses in statutes of limitations	**(10)**	(5)	–
Unrecognized tax benefits balance at end of year	**$ 42**	$ 39	$ 38

Unrecognized tax benefits are included in Accrued taxes and Other deferred liabilities and credits in the Consolidated Balance Sheet. If these benefits were recognized, they would have reduced income tax expense in 2016, 2015 and 2014 by $28 million, $26 million and $25 million, respectively, net of the federal benefit from state income taxes.

TDS recognizes accrued interest and penalties related to unrecognized tax benefits in Income tax expense (benefit). The amounts charged to income tax expense related to interest and penalties resulted in a benefit of $1 million in 2016 and an expense of $1 million and $3 million in 2015 and 2014, respectively. Net accrued liabilities for interest and penalties were $15 million and $17 million at December 31, 2016 and 2015, respectively, and are included in Other deferred liabilities and credits in the Consolidated Balance Sheet.

TDS and its subsidiaries file federal and state income tax returns. With only limited exceptions, TDS is no longer subject to federal income tax audits for the years prior to 2013. With only a few exceptions, TDS is no longer subject to state income tax audits for years prior to 2012.

Note 5 Earnings Per Share

Basic earnings (loss) per share available to TDS common shareholders is computed by dividing Net income (loss) available to TDS common shareholders by the weighted average number of common shares outstanding during the period. Diluted earnings (loss) per share available to TDS common shareholders is computed by dividing Net income (loss) available to TDS common shareholders by the weighted average number of common shares outstanding during the period adjusted to include the effects of potentially dilutive securities. Potentially dilutive securities primarily include incremental shares issuable upon the exercise of outstanding stock options and the vesting of restricted stock units.

The amounts used in computing earnings (loss) per common share and the effects of potentially dilutive securities on the weighted average number of common shares were as follows:

Year Ended December 31,	**2016**	2015	2014
(Dollars and shares in millions, except earnings per share)			
Basic earnings (loss) per share available to TDS common shareholders:			
Net income (loss) available to TDS common shareholders used in basic earnings (loss) per share	**$ 43**	$ 219	$ (136)
Adjustments to compute diluted earnings:			
Noncontrolling interest adjustment	**–**	(1)	–
Net income (loss) available to TDS common shareholders used in diluted earnings (loss) per share	**$ 43**	$ 218	$ (136)
Weighted average number of shares used in basic earnings (loss) per share:			
Common Shares	**103**	102	101
Series A Common Shares	**7**	7	7
Total	**110**	109	108
Effects of dilutive securities[1]	**1**	1	–
Weighted average number of shares used in diluted earnings (loss) per share	**111**	110	108
Basic earnings (loss) per share available to TDS common shareholders	**$ 0.39**	$ 2.02	$ (1.26)
Diluted earnings (loss) per share available to TDS common shareholders	**$ 0.39**	$ 1.98	$ (1.26)

[1] There were no effects of dilutive securities in 2014 due to the net loss for the year.

Certain Common Shares issuable upon the exercise of stock options, vesting of restricted stock units or conversion of preferred shares were not included in average diluted shares outstanding for the calculation of Diluted earnings (loss) per share available to TDS common shareholders because their effects were antidilutive. The number of such Common Shares excluded was 4 million shares, 5 million shares and 10 million shares for 2016, 2015, and 2014 respectively.

Note 6 Acquisitions, Divestitures and Exchanges

Divestiture Transaction

On May 16, 2013, pursuant to a Purchase and Sale Agreement, U.S. Cellular sold customers and certain PCS spectrum licenses to subsidiaries of Sprint Corp. fka Sprint Nextel Corporation ("Sprint") in U.S. Cellular's Chicago, central Illinois, St. Louis and certain Indiana/Michigan/Ohio markets ("Divestiture Markets") in consideration for $480 million in cash. The Purchase and Sale Agreement also contemplated certain other agreements, together with the Purchase and Sale Agreement collectively referred to as the "Divestiture Transaction."

These agreements require Sprint to reimburse U.S. Cellular up to $200 million (the "Sprint Cost Reimbursement") for certain network decommissioning costs, network site lease rent and termination costs, network access termination costs, and employee termination benefits for specified engineering employees. As of December 31, 2016, U.S. Cellular had received a cumulative total of $118 million pursuant to the Sprint Cost Reimbursement. Sprint Cost Reimbursement totaling $7 million, $30 million and $71 million had been received and recorded in Cash received from divestitures and exchanges in the Consolidated Statement of Cash Flows in 2016, 2015 and 2014, respectively.

As a result of the Divestiture Transaction, TDS recognized gains of $6 million and $29 million in (Gain) loss on sale of business and other exit costs, net, in 2015 and 2014, respectively.

Other Acquisitions, Divestitures and Exchanges

- In July 2016, the FCC announced U.S. Cellular as a qualified bidder in the FCC's forward auction of 600 MHz spectrum licenses, referred to as Auction 1002, which then commenced in August 2016. In the second quarter of 2016, U.S. Cellular made an upfront payment to the FCC of $143 million to establish its initial bidding eligibility. The auction deposit is recorded as a component of Other assets and deferred charges as of December 31, 2016. The Clock Phase of the auction was completed in February 2017 and based on the results of this phase, U.S. Cellular is committed to purchase 600 MHz spectrum licenses for a minimum amount of $327 million, subject to increase as the FCC completes the Assignment Phase of the auction, which is pending. U.S. Cellular expects to be obligated to pay for the total committed amount, less the $143 million deposit, in the second quarter of 2017.

- In March 2016, U.S. Cellular entered into an agreement with a third party to transfer FCC licenses in non-operating markets and receive FCC licenses in operating markets. The agreement provided for the transfer of certain AWS and PCS spectrum licenses to U.S. Cellular in exchange for U.S. Cellular transferring certain PCS spectrum licenses with a carrying value of $8 million and $1 million of cash to the third party. This transaction closed in the fourth quarter of 2016, at which time U.S. Cellular recorded a gain of $3 million.

- In February 2016, U.S. Cellular entered into an agreement with a third party to exchange certain 700 MHz licenses for certain AWS and PCS licenses and $28 million of cash. This license exchange was accomplished in two closings. The first closing occurred in the second quarter of 2016, at which time U.S. Cellular received $13 million of cash and recorded a gain of $9 million. The remaining licenses with a carrying value of $8 million were classified as "Assets held for sale" in the Consolidated Balance Sheet as of December 31, 2016. The second closing occurred in February 2017 at which time U.S. Cellular received cash proceeds of $15 million and expects to recognize a gain.

- In February 2016, U.S. Cellular entered into an additional agreement with a third party that provided for the transfer of certain AWS spectrum licenses and $2 million in cash to U.S. Cellular, in exchange for U.S. Cellular transferring certain AWS, PCS and 700 MHz licenses with a carrying value of $7 million to the third party. This transaction closed in the third quarter of 2016, at which time U.S. Cellular recorded a gain of $7 million.

- In 2015 and 2016, U.S. Cellular entered into multiple agreements to purchase spectrum licenses located in U.S. Cellular's existing operating markets. The aggregate purchase price for these spectrum licenses is $57 million, of which $53 million closed in 2016. The remaining agreements are expected to close in early 2017.

- In 2015, TDS sold certain Wireline markets for $26 million, including working capital adjustments, and recognized aggregated gains of $10 million.

- In March 2015, U.S. Cellular exchanged certain of its unbuilt PCS licenses for certain other PCS licenses located in U.S. Cellular's existing operating markets and $117 million of cash. As of the transaction date, the licenses received in the transaction had an estimated fair value, per a market approach, of $43 million. A gain of $125 million was recorded in (Gain) loss on license sales and exchanges, net in the Consolidated Statement of Operations in the first quarter of 2015.

- U.S. Cellular participated in Auction 97 indirectly through its limited partnership interest in Advantage Spectrum. Advantage Spectrum was the provisional winning bidder for 124 licenses for an aggregate winning bid of $338 million, after its designated entity discount of 25%. Advantage Spectrum's bid amount, less the upfront payment of $60 million paid in 2014, was paid to the FCC in March 2015. These licenses were granted by the FCC in July 2016. See Note 14 — Variable Interest Entities for additional information.

- In December 2014, U.S. Cellular entered into an agreement with a third party to sell 595 towers and certain related contracts, assets, and liabilities for $159 million. This agreement and related transactions are referred to as the "Tower Sale" and were accomplished in two closings. The first closing occurred in December 2014 and included the sale of 236 towers, without tenants, for $10 million. On this same date, U.S. Cellular received $8 million in earnest money. At the time of the first closing, a $5 million gain was recorded. The second closing for the remaining 359 towers, primarily with tenants, took place in January 2015, at which time U.S. Cellular received $142 million in additional cash proceeds and TDS recorded a gain of $120 million in (Gain) loss on sale of business and other exit costs, net.

- In September 2014, U.S. Cellular entered into an agreement with a third party to exchange certain PCS and AWS licenses for certain other PCS and AWS licenses and $28 million of cash. This license exchange was accomplished in two closings. The first closing occurred in December 2014 at which time U.S. Cellular transferred licenses to the counterparty with a net book value of $11 million, received licenses with an estimated fair value, per a market approach, of $52 million, recorded a $22 million gain and recorded an $18 million deferred credit in Other current liabilities. The license that was transferred to the counterparty in the second closing had a net book value of $22 million. The second closing occurred in July 2015. At the time of the second closing, U.S. Cellular received $28 million in cash and recognized the deferred credit from the first closing, resulting in a total gain of $24 million recorded on this part of the license exchange.

- In September 2014, TDS acquired substantially all of the assets of a group of companies operating as BendBroadband, headquartered in Bend, Oregon for $261 million in cash. BendBroadband is a full-service communications company, offering an extensive range of broadband, fiber connectivity, cable television and telephone services for commercial and residential customers in Central Oregon. As part of the agreement, TDS also acquired a Tier III data center providing colocation and managed services and a cable advertising and broadcast business. BendBroadband service offerings complement the current portfolio of products offered through TDS Telecom businesses. Goodwill of $33 million was recorded due primarily to the expectation of future growth and synergies in Cable segment operations. The operations of the data center are included in the HMS segment. The operations of the cable and the advertising and broadcast businesses are included in the Cable segment.

- In May 2014, U.S. Cellular entered into a License Purchase and Customer Recommendation Agreement with Airadigm Communications Inc. ("Airadigm"), a wholly-owned subsidiary of TDS. In September 2014, pursuant to the License Purchase and Customer Recommendation Agreement, Airadigm transferred FCC spectrum licenses and certain tower assets in certain markets in Wisconsin, Iowa, Minnesota and Michigan, to U.S. Cellular for $92 million in cash (the "Airadigm Transaction"). Since both parties to this transaction are controlled by TDS, upon closing, U.S. Cellular recorded the transferred assets at Airadigm's net book value of $15 million.

- In March 2014, U.S. Cellular sold the majority of its St. Louis area non-operating market spectrum license for $92 million. A gain of $76 million was recorded in (Gain) loss on license sales and exchanges, net in the Consolidated Statement of Operations in the first quarter of 2014.

- In February 2014, U.S. Cellular completed an exchange whereby U.S. Cellular received one E block PCS spectrum license covering Milwaukee, WI in exchange for one D block PCS spectrum license covering Milwaukee, WI. The exchange of licenses provided U.S. Cellular with spectrum to meet anticipated future capacity and coverage requirements. No cash, customers, network assets, other assets or liabilities were included in the exchange. As a result of this transaction, TDS recognized a gain of $16 million, which was recorded in (Gain) loss on license sales and exchanges, net in the Consolidated Statement of Operations in the first quarter of 2014.

Note 7 Intangible Assets

Activity related to TDS' Licenses, Goodwill and Franchise rights is presented below. See Note 6 — Acquisitions, Divestitures and Exchanges for information regarding transactions which affected these intangible assets during the periods. Prior to 2009, TDS accounted for U.S. Cellular's share repurchases as step acquisitions, allocating a portion of the share repurchase value to TDS' Licenses and Goodwill. Consequently, U.S. Cellular's Licenses and Goodwill on a stand-alone basis do not equal the TDS consolidated Licenses and Goodwill related to U.S. Cellular.

Licenses

	U.S. Cellular	Wireline	Cable	Total
(Dollars in millions)				
Balance at December 31, 2014	$ 1,448	$ 3	$ 3	$ 1,454
Acquisitions	346	–	–	346
Exchanges - Licenses received	43	–	–	43
Other	1	–	–	1
Balance at December 31, 2015	1,838	3	3	1,844
Acquisitions	53	–	–	53
Transferred to Assets held for sale	(8)	–	–	(8)
Divestitures	–	(1)	–	(1)
Exchanges - Licenses received	25	–	–	25
Exchanges - Licenses surrendered	(18)	–	–	(18)
Balance at December 31, 2016	$ 1,890	$ 2	$ 3	$ 1,895

Goodwill

	U.S. Cellular	Wireline	Cable	HMS	Total
(Dollars in millions)					
Balance at December 31, 2014	$ 227	$ 414	$ 95	$ 35	$ 771
Divestitures	–	(5)	–	–	(5)
Balance at December 31, 2015	227	409	95	35	766
Other	–	–	–	–	–
Balance at December 31, 2016	$ 227	$ 409	$ 95	$ 35	$ 766

Accumulated impairment losses in prior periods were $334 million for U.S. Cellular, $29 million for Wireline, $84 million for HMS, and $4 million for Corporate and Other.

Interim Goodwill Impairment Assessment

During the third quarter of 2014, due to a decline in projected revenue and earnings of TDS Telecom's HMS reporting unit compared with previously projected results, TDS determined that an interim impairment test of HMS Goodwill was required.

As of August 1, 2014, the carrying value of the HMS reporting unit exceeded its fair value; therefore, a Step 2 Goodwill impairment test was performed. The second step compared the implied fair value of the reporting unit Goodwill to the carrying amount of that Goodwill. To calculate the implied fair value of Goodwill in this second step, TDS allocated the fair value of the reporting unit to all of the assets and liabilities of that reporting unit (including any unrecognized intangible assets) as if the reporting unit had been acquired in a business combination and the fair value was the price paid to acquire the reporting unit. The excess of the fair value of the reporting unit over the amount assigned to the assets and liabilities of the reporting unit was the implied fair value of Goodwill. Since the carrying amount of Goodwill exceeded the implied fair value of Goodwill, an impairment loss was recognized for that difference. As a result of the Step 2 Goodwill impairment test, TDS recognized a loss on impairment of $84 million during the third quarter of 2014.

Franchise Rights

There were no significant changes to Franchise rights during 2016 or 2015.

Note 8 Investments in Unconsolidated Entities

Investments in unconsolidated entities consist of amounts invested in wireless and wireline entities in which TDS holds a noncontrolling interest. These investments are accounted for using either the equity or cost method as shown in the following table:

December 31,	**2016**	2015
(Dollars in millions)		
Equity method investments:		
Capital contributions, loans, advances and adjustments	$ **118**	$ 123
Cumulative share of income	**1,613**	1,468
Cumulative share of distributions	**(1,298)**	(1,205)
Total equity method investments	**433**	386
Cost method investments	**18**	16
Total investments in unconsolidated entities	$ **451**	$ 402

The following tables, which are based on information provided in part by third parties, summarize the combined assets, liabilities and equity, and results of operations of TDS' equity method investments:

December 31,	**2016**	2015
(Dollars in millions)		
Assets		
Current	$ **776**	$ 671
Due from affiliates	**386**	89
Property and other	**4,666**	4,604
Total assets	$ **5,828**	$ 5,364
Liabilities and Equity		
Current liabilities	$ **468**	$ 810
Deferred credits	**189**	242
Long-term liabilities	**197**	158
Long-term capital lease obligations	**6**	2
Partners' capital and shareholders' equity	**4,968**	4,152
Total liabilities and equity	$ **5,828**	$ 5,364

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Results of Operations			
Revenues	$ **6,769**	$ 6,979	$ 6,700
Operating expenses	**5,068**	5,245	5,064
Operating income	**1,701**	1,734	1,636
Other income (expense), net	**(13)**	(9)	7
Net income	$ **1,688**	$ 1,725	$ 1,643

Note 9 Property, Plant and Equipment

TDS' Property, plant and equipment in service and under construction, and related accumulated depreciation and amortization, as of December 31, 2016 and 2015 were as follows:

December 31,	Useful Lives (Years)	2016	2015
(Dollars in millions)			
Land	N/A	**$ 54**	$ 55
Buildings	5-40	**511**	506
Leasehold and land improvements	1-30	**1,188**	1,137
Cable and wire	15-35	**1,740**	1,689
Network and switching equipment	3-13	**2,348**	2,279
Cell site equipment	7-25	**3,383**	3,383
Office furniture and equipment	3-10	**508**	587
Other operating assets and equipment	3-12	**187**	205
System development	1-7	**1,523**	1,459
Work in process	N/A	**237**	220
Total property, plant and equipment, gross		**11,679**	11,520
Accumulated depreciation and amortization		**(8,124)**	(7,756)
Total property, plant and equipment, net		**$ 3,555**	$ 3,764

Depreciation and amortization expense totaled $820 million, $811 million and $798 million in 2016, 2015 and 2014, respectively. In 2016, 2015 and 2014, (Gain) loss on asset disposals, net included charges of $27 million, $22 million and $27 million, respectively, related to disposals of assets, trade-ins of older assets for replacement assets and other retirements of assets from service in the normal course of business.

During 2016, TDS recorded an out-of-period adjustment attributable to 2014 and 2015 related to the over-depreciation of certain assets in the Wireline segment. TDS has determined that this adjustment was not material to the prior quarterly or annual periods and also was not material to 2016 results. As a result of this out-of-period adjustment, Depreciation, amortization and accretion expense decreased by $4 million in 2016. This adjustment was made in the second quarter of 2016.

Note 10 Asset Retirement Obligations

U.S. Cellular is subject to asset retirement obligations associated with its leased cell sites, switching office sites, retail store sites and office locations in its operating markets. Asset retirement obligations generally include obligations to restore leased land and retail store and office premises to their pre-lease conditions.

TDS Telecom owns poles, cable and wire and certain buildings and also leases data center and office space and property used for housing central office switching equipment and fiber cable. These assets and leases often have removal or remediation requirements associated with them. For example, TDS Telecom's poles, cable and wire are often located on property that is not owned by TDS Telecom and may be subject to the provisions of easements, permits, or leasing arrangements. Pursuant to the terms of the permits, easements, or leasing arrangements, TDS Telecom is often required to remove these assets and return the property to its original condition at some defined date in the future.

Asset retirement obligations are included in Other deferred liabilities and credits in the Consolidated Balance Sheet.

In 2016 and 2015, U.S. Cellular and TDS Telecom performed a review of the assumptions and estimated costs related to asset retirement obligations. The results of the reviews (identified as "Revisions in estimated cash outflows") and other changes in asset retirement obligations during 2016 and 2015 were as follows:

		2016		2015
(Dollars in millions)				
Balance at beginning of year	$	**243**	$	239
Additional liabilities accrued		**1**		2
Revisions in estimated cash outflows		**7**		(4)
Disposition of assets		**(1)**		(10)
Accretion expense		**16**		16
Balance at end of year	$	**266**	$	243

Note 11 Debt

Revolving Credit Facilities

At December 31, 2016, TDS and U.S. Cellular had revolving credit facilities available for general corporate purposes. In June 2016, TDS entered into a $400 million revolving credit agreement with certain lenders and other parties and U.S. Cellular entered into a $300 million revolving credit agreement with certain lenders and other parties. As a result of the new agreements, TDS' and U.S. Cellular's revolving credit agreements due to expire in December 2017 were terminated. Amounts under the revolving credit facilities may be borrowed, repaid and reborrowed from time to time until maturity in June 2021. As of December 31, 2016, there were no outstanding borrowings under the revolving credit facilities, except for letters of credit. Interest expense representing commitment fees on the unused portion of the revolving lines of credit was $2 million in each of 2016, 2015 and 2014. The commitment fees are based on the unsecured senior debt ratings assigned to TDS and U.S. Cellular by certain ratings agencies.

The following table summarizes the revolving credit facilities as of December 31, 2016:

		TDS		U.S. Cellular
(Dollars in millions)				
Maximum borrowing capacity	$	400	$	300
Letters of credit outstanding	$	1	$	2
Amount borrowed	$	–	$	–
Amount available for use	$	399	$	298

Borrowings under the revolving credit facilities bear interest either at a LIBOR rate plus 1.75% or at an alternative Base Rate as defined in the revolving credit agreement plus 0.75%, at TDS' or U.S. Cellular's option. TDS and U.S. Cellular may select a borrowing period of either one, two, three or six months (or other period of twelve months or less if requested by TDS or U.S. Cellular and approved by the lenders). TDS' and U.S. Cellular's credit spread and commitment fees on their revolving credit facilities may be subject to increase if their current credit ratings from nationally recognized credit rating agencies are lowered, and may be subject to decrease if the ratings are raised.

In connection with U.S. Cellular's revolving credit facility, TDS and U.S. Cellular entered into a subordination agreement dated June 15, 2016 together with the administrative agent for the lenders under U.S. Cellular's revolving credit agreement. Pursuant to this subordination agreement, (a) any consolidated funded indebtedness from U.S. Cellular to TDS will be unsecured and (b) any (i) consolidated funded indebtedness from U.S. Cellular to TDS (other than "refinancing indebtedness" as defined in the subordination agreement) in excess of $105 million and (ii) refinancing indebtedness in excess of $250 million will be subordinated and made junior in right of payment to the prior payment in full of obligations to the lenders under U.S. Cellular's revolving credit agreement. As of December 31, 2016, U.S. Cellular had no outstanding consolidated funded indebtedness or refinancing indebtedness that was subordinated to the revolving credit agreement pursuant to the subordination agreement.

The continued availability of the revolving credit facilities requires TDS and U.S. Cellular to comply with certain negative and affirmative covenants, maintain certain financial ratios and make representations regarding certain matters at the time of each borrowing. TDS and U.S. Cellular believe they were in compliance as of December 31, 2016 with all covenants and other requirements set forth in the revolving credit facilities.

The revolving credit agreements include the following financial covenants:

- Consolidated Interest Coverage Ratio may not be less than 3.00 to 1.00 as of the end of any fiscal quarter.
- Consolidated Leverage Ratio may not be greater than the ratios indicated as of the end of any fiscal quarter for each period specified below:

Period	Ratios
From the agreement date of June 15, 2016 through June 30, 2019	3.25 to 1.00
From July 1, 2019 and thereafter	3.00 to 1.00

Certain TDS and U.S. Cellular wholly-owned subsidiaries have jointly and severally unconditionally guaranteed the payment and performance of the obligations of TDS and U.S. Cellular under the revolving credit agreements pursuant to a guaranty dated June 15, 2016. Other subsidiaries that meet certain criteria will be required to provide a similar guaranty in the future. TDS and U.S. Cellular believe that they were in compliance with all of the financial and other covenants and requirements set forth in their revolving credit facilities as of December 31, 2016.

Term Loan

In July 2015, U.S. Cellular borrowed $225 million on a senior term loan credit facility in two separate draws. This facility was entered into in January 2015 and amended and restated in June 2016. The interest rate on outstanding borrowings is reset at three and six month intervals at a rate of LIBOR plus 250 basis points. This credit facility provides for the draws to be continued on a long-term basis under terms that are readily determinable. U.S. Cellular has the ability and intent to carry the debt for the duration of the agreement. Principal reductions are due and payable in quarterly installments of $3 million beginning in March 2016 through December 2021, and the remaining unpaid balance will be due and payable in January 2022. The senior term loan credit facility contains financial covenants and subsidiary guarantees that are consistent with the revolving credit agreements described above. This facility was entered into for general corporate purposes, including working capital, spectrum purchases and capital expenditures. U.S. Cellular believes that it was in compliance with all of the financial and other covenants and requirements set forth in its term loan credit facility as of December 31, 2016.

In connection with U.S. Cellular's term loan credit facility, TDS and U.S. Cellular entered into a subordination agreement in June 2016 together with the administrative agent for the lenders under U.S. Cellular's term loan credit agreement, which is substantially the same as the subordination agreement in the U.S. Cellular revolving credit facility described above. As of December 31, 2016, U.S. Cellular had no outstanding consolidated funded indebtedness or refinancing indebtedness that was subordinated to the term loan facility pursuant to this subordination agreement.

Other Long-Term Debt

Long-term debt as of December 31, 2016 and 2015 was as follows:

(Dollars in millions)	Issuance date	Maturity date	Call date (any time on or after)	2016 Principal Amount	2016 Less Unamortized discount and debt issuance costs	2016 Total	2015 Principal Amount	2015 Less Unamortized discount and debt issuance costs	2015 Total
TDS:									
Unsecured Senior Notes									
6.625%	March 2005	March 2045	March 2010	**$ 116**	**$ 3**	**$ 113**	$ 116	$ 3	$ 113
6.875%	Nov 2010	Nov 2059	Nov 2015	**225**	**7**	**218**	225	8	217
7.000%	March 2011	March 2060	March 2016	**300**	**10**	**290**	300	10	290
5.875%	Dec 2012	Dec 2061	Dec 2017	**195**	**7**	**188**	195	7	188
Purchase contract	Oct 2001	Oct 2021		**1**	**–**	**1**	1	–	1
Total Parent				**$ 837**	**$ 27**	**$ 810**	$ 837	$ 28	$ 809
Subsidiaries:									
U.S. Cellular -									
Unsecured Senior Notes									
6.700%	Dec 2003 and June 2004	Dec 2033	Dec 2003 and June 2004	**$ 544**	**$ 15**	**$ 529**	$ 544	$ 15	$ 529
6.950%	May 2011	May 2060	May 2016	**342**	**11**	**331**	342	11	331
7.250%	Dec 2014	Dec 2063	Dec 2019	**275**	**10**	**265**	275	10	265
7.250%	Nov 2015	Dec 2064	Dec 2020	**300**	**10**	**290**	300	10	290
Term Loan	Jul 2015	Jan 2022		**214**	**2**	**212**	225	2	223
Obligation on capital leases				**2**	**–**	**2**	2	–	2
TDS Telecom -									
Rural Utilities Service (“RUS”) and other notes				**1**	**–**	**1**	1	–	1
Obligation on capital leases				**1**	**–**	**1**	1	–	1
Other -									
Long-term notes		Through 2021		**4**	**–**	**4**	3	–	3
Total Subsidiaries				**1,683**	**48**	**1,635**	1,693	48	1,645
Total long-term debt				**$ 2,520**	**$ 75**	**$ 2,445**	$ 2,530	$ 76	$ 2,454
Long-term debt, current						**$ 12**			$ 14
Long-term debt, noncurrent						**$ 2,433**			$ 2,440

TDS may redeem its callable notes and U.S. Cellular may redeem its 6.95% Senior Notes, 7.25% 2063 Senior Notes and 7.25% 2064 Senior Notes, in whole or in part at any time after the respective call date, at a redemption price equal to 100% of the principal amount redeemed plus accrued and unpaid interest. U.S. Cellular may redeem the 6.7% Senior Notes, in whole or in part, at any time prior to maturity at a redemption price equal to the greater of (a) 100% of the principal amount of such notes, plus accrued and unpaid interest, or (b) the sum of the present values of the remaining scheduled payments of principal and interest thereon discounted to the redemption date on a semi-annual basis at the Treasury Rate plus 30 basis points.

Interest on the Senior Notes outstanding at December 31, 2016 is payable quarterly, with the exception of U.S. Cellular's 6.7% Senior Notes for which interest is payable semi-annually.

The annual requirements for principal payments on long-term debt are approximately $12 million, $13 million, $12 million, $12 million and $14 million for the years 2017 through 2021, respectively.

The covenants associated with TDS and its subsidiaries' long-term debt obligations, among other things, restrict TDS' ability, subject to certain exclusions, to incur additional liens, enter into sale and leaseback transactions, and sell, consolidate or merge assets.

TDS' and U.S. Cellular's long-term debt notes do not contain any provisions resulting in acceleration of the maturities of outstanding debt in the event of a change in TDS' or U.S. Cellular's credit rating. However, a downgrade in TDS' or U.S. Cellular's credit rating could adversely affect its ability to obtain long-term debt financing in the future.

Note 12 Employee Benefit Plans

Defined Contribution Plans

TDS sponsors a qualified noncontributory defined contribution pension plan. The plan provides benefits for certain employees of TDS Corporate, TDS Telecom and U.S. Cellular. Under this plan, pension costs are calculated separately for each participant and are funded annually. Total pension costs were $17 million, $16 million and $16 million in 2016, 2015 and 2014, respectively. In addition, TDS sponsors a defined contribution retirement savings plan ("401(k)") plan. Total costs incurred from TDS' contributions to the 401(k) plan were $27 million, $26 million and $25 million in 2016, 2015 and 2014, respectively.

TDS also sponsors an unfunded nonqualified deferred supplemental executive retirement plan for certain employees to offset the reduction of benefits caused by the limitation on annual employee compensation under the tax laws.

Other Post-Retirement Benefits

TDS sponsors a defined benefit post-retirement plan that provides medical benefits to retirees and that covers certain employees of TDS Corporate and TDS Telecom. The plan is contributory, with retiree contributions adjusted annually.

The following amounts are included in Accumulated other comprehensive income (loss) in the Consolidated Balance Sheet before affecting such amounts for income taxes:

December 31,	**2016**	2015
(Dollars in millions)		
Net prior service costs	**$ 5**	$ 7
Net actuarial loss	**(5)**	(7)
	$ –	$ –

The estimated net actuarial loss for the postretirement benefit plans that will be amortized from Accumulated other comprehensive income (loss) into net periodic benefit (income) cost during 2017 is not significant. The estimated prior service cost gain for the postretirement benefit plans that will be amortized from Accumulated other comprehensive income (loss) into net periodic benefit cost during 2017 is $2 million.

The following table reconciles the beginning and ending balances of the benefit obligation and the fair value of plan assets for the other post-retirement benefit plan.

	2016	2015
(Dollars in millions)		
Change in benefit obligation		
Benefit obligation at beginning of year	**$ 39**	$ 35
Service cost	**1**	1
Interest cost	**2**	2
Plan amendments	**–**	7
Actuarial (gain) loss	**(1)**	(4)
Employee contribution	**2**	2
Benefits paid	**(4)**	(4)
Benefit obligation at end of year	**39**	39
Change in plan assets		
Fair value of plan assets at beginning of year	**50**	52
Actual return (loss) on plan assets	**4**	–
Employee contribution	**2**	2
Benefits paid	**(4)**	(4)
Fair value of plan assets at end of year	**52**	50
Funded status	**$ 13**	$ 11

The funded status identified above is recorded as a component of Other assets and deferred charges in TDS' Consolidated Balance Sheet as of December 31, 2016 and 2015.

The following table sets forth by level within the fair value hierarchy the plans' assets at fair value, as of December 31, 2016 and 2015. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. A financial instrument's level within the fair value hierarchy is not representative of its expected performance or its overall risk profile, and therefore Level 3 assets are not necessarily higher risk than Level 2 assets or Level 1 assets. There were no Level 2 or Level 3 assets for any years presented.

Mutual funds are valued based on the closing price reported on the active market on which the individual securities are traded. Certain of the plan's assets are valued based on the net asset value ("NAV") as an alternative to estimate the fair value due to the absence of readily available market prices. The NAV is based on the fair values of the underlying assets owned by the fund.

December 31, 2016	Level 1	Level 2	Total
(Dollars in millions)			
Mutual funds			
International equity[1]	$ 12	$ –	$ 12
Money market[2]	2	–	2
US large cap[3]	19	–	19
US small cap[4]	5	–	5
Plan assets measured at fair value	$ 38	$ –	$ 38
Plan assets measured at NAV[5]			14
Total plan assets			$ 52

December 31, 2015	Level 1	Level 2	Total
(Dollars in millions)			
Mutual funds			
International equity[1]	$ 12	$ –	$ 12
Money market[2]	3	–	3
US large cap[3]	22	–	22
Plan assets measured at fair value	$ 37	$ –	$ 37
Plan assets measured at NAV[5]			13
Total plan assets			$ 50

1 International equity - This type of fund seeks to provide long-term capital appreciation by investing in the stocks of companies located outside the United States that are considered to have the potential for above-average capital appreciation.

2 Money market - This type of fund seeks as high a level of current income as is consistent with the preservation of capital and the maintenance of liquidity by investing in a diversified portfolio of high-quality, dollar-denominated short-term debt securities.

3 US large cap - This type of fund seeks to track the performance of several benchmark indices that measure the investment return of large-capitalization stocks. The funds attempt to replicate the indices by investing substantially all of their assets in the stocks that make up the various indices in approximately the same proportion as the weighting in the indices.

4 US small cap - This type of fund seeks to track the performance of a benchmark index that measures the investment return of small-capitalization stocks. The fund attempts to replicate the index by investing substantially all of its assets in the stocks that make up the index in approximately the same proportion as the weighting in the index.

5 Plan assets measured at NAV consists entirely of a bank common trust invested in the BlackRock Intermediate Government/Credit Bond Index Fund F. This type of fund seeks to achieve maximum total return by investing in Bond Index Funds and other short-term investments.

The following table summarizes how plan assets are invested.

Investment Category	Target Asset Allocation	Allocation of Plan Assets at December 31, 2016	2015
U.S. equities	45%	**47.2%**	44.7%
International equities	25%	**23.0%**	23.8%
Debt securities	30%	**29.8%**	31.5%

The post-retirement benefit fund engages multiple asset managers to ensure proper diversification of the investment portfolio within each asset category. The investment objective is to meet or exceed the rate of return of a performance index comprised of 45% Dow Jones U.S. Total Stock Market Index, 25% FTSE All World (excluding U.S.) Stock Index, and 30% Barclays Capital Aggregate Bond Index. The three-year and five-year average rates of return for TDS' post-retirement benefit fund are 4.68% and 9.39%, respectively.

The post-retirement benefit fund does not hold any debt or equity securities issued by TDS, U.S. Cellular or any related parties.

TDS is not required to set aside current funds for its future retiree health insurance benefits. The decision to contribute to the plan assets is based upon several factors, including the funded status of the plan, market conditions, alternative investment opportunities, tax benefits and other circumstances. In accordance with applicable income tax regulations, annual contributions to fund the costs of future retiree medical benefits may not exceed certain thresholds. TDS has not determined whether it will make a contribution to the plan in 2017.

Net periodic benefit cost recorded in the Consolidated Statement of Operations includes the following components:

Year Ended December 31,	**2016**	2015	2014
(Dollars in millions)			
Service cost	**$ 1**	$ 1	$ 1
Interest cost	**2**	2	2
Expected return on plan assets	**(3)**	(4)	(3)
Amortization of prior service costs[1]	**(2)**	(3)	(3)
Amortization of actuarial losses[2]	**–**	–	1
Net post-retirement cost (benefit)	**$ (2)**	$ (4)	$ (2)

[1] Based on straight-line amortization over the average time remaining before active employees become fully eligible for plan benefits.

[2] Based on straight-line amortization over the average time remaining before active employees retire.

The following assumptions were used to determine benefit obligations and net periodic benefit cost:

December 31,	**2016**	2015
Benefit obligations		
Discount rate	**4.20%**	4.40%
Net periodic benefit cost		
Discount rate	**4.40%**	4.20%
Expected return on plan assets	**6.00%**	6.50%

The discount rate for 2016 and 2015 was determined using a hypothetical Aa spot yield curve represented by a series of annualized individual spot discount rates from six months to 99 years. The spot rate curve was derived from a direct calculation of the implied forward rate curve based on the included bond cash flows. This yield curve, when populated with projected cash flows that represent the expected timing and amount of TDS plan benefit payments, produces a single effective interest discount rate that is used to measure the plan's liabilities.

The expected rate of return was determined using the target asset allocation for the TDS plan and rate of return expectations for each asset class.

The measurement date for actuarial determination was December 31, 2016. For measurement purposes, the annual rate of increase in the per capita cost of covered health care benefits was assumed for 2016 to be 9.2% for plan participants aged 65 and above, and 7.5% for participants under age 65. For all participants the 2016 annual rate of increase is expected to decrease to 5.0% by 2025. The 2015 expected rate of increase was 9.5% for plan participants aged 65 and above, and 7.3% for participants under age 65, decreasing to 5.0% for all participants by 2024.

A 1% increase or decrease in assumed health care cost trend rates would have the following effects as of and for the year ended December 31, 2016:

	One Percent	
	Increase	Decrease
(Dollars in millions)		
Effect on total service and interest cost components	$ –	$ –
Effect on post-retirement benefit obligation	$ 1	$ (1)

The following estimated future benefit payments, which reflect expected future service, are expected to be paid:

Year	Estimated Future Post-Retirement Benefit Payments
(Dollars in millions)	
2017	$ 2
2018	2
2019	2
2020	2
2021	2
2022-2026	12

Note 13 Commitments and Contingencies

Agreements

During 2016, U.S. Cellular entered into agreements with Apple to purchase certain minimum quantities of Apple iPhone products and fund marketing programs related to the Apple iPhone products over a three-year period beginning in September 2016. Based on current forecasts, U.S. Cellular estimates that the remaining contractual commitment as of December 31, 2016 under these agreements is approximately $1,351 million. At this time, U.S. Cellular expects to meet its contractual commitments with Apple.

In November 2014, U.S. Cellular executed a Master Statement of Work (“Master”) and certain other documents with Amdocs Software Systems Limited (“Amdocs”). The agreement provides that U.S. Cellular will outsource to Amdocs certain support functions for its Billing and Operations Support System (“B/OSS”). Such functions include application support, billing operations and some infrastructure services. In October 2016, U.S. Cellular executed two Statements of Work (“SOW”) with Amdocs for continued development and support related to its billing system. Both the Master and SOW agreements have terms through September 30, 2019 with the Master being subject to five one-year renewal periods at U.S. Cellular’s option. The estimated amounts to be paid to Amdocs with respect to the Master and SOW agreements during the remaining terms are approximately $53 million and $67 million (exclusive of travel and expenses and subject to certain potential adjustments), respectively.

Lease Commitments

TDS and its subsidiaries have leases for certain plant facilities, office space, retail store sites, cell sites, data centers and data-processing equipment which are accounted for as operating leases. Certain leases have renewal options and/or fixed rental increases. Renewal options that are reasonably assured of exercise are included in determining the lease term. Any rent abatements or lease incentives, in addition to fixed rental increases, are included in the calculation of rent expense and calculated on a straight-line basis over the defined lease term.

As of December 31, 2016, future minimum rental payments required under operating leases and rental receipts expected under operating leases that have noncancellable lease terms in excess of one year were as follows:

	Operating Leases Future Minimum Rental Payments	Operating Leases Future Minimum Rental Receipts
(Dollars in millions)		
2017	$ 158	$ 50
2018	143	42
2019	130	33
2020	117	22
2021	106	8
Thereafter	816	1
Total	$ 1,470	$ 156

For 2016, 2015 and 2014, rent expense for noncancellable long-term leases was $177 million, $168 million and $177 million, respectively; and rent expense under cancellable short-term leases was $12 million, $11 million and $9 million, respectively.

Indemnifications

TDS enters into agreements in the normal course of business that provide for indemnification of counterparties. The terms of the indemnifications vary by agreement. The events or circumstances that would require TDS to perform under these indemnities are transaction specific; however, these agreements may require TDS to indemnify the counterparty for costs and losses incurred from litigation or claims arising from the underlying transaction. TDS is unable to estimate the maximum potential liability for these types of indemnifications as the amounts are dependent on the outcome of future events, the nature and likelihood of which cannot be determined at this time. Historically, TDS has not made any significant indemnification payments under such agreements.

Legal Proceedings

TDS is involved or may be involved from time to time in legal proceedings before the FCC, other regulatory authorities, and/or various state and federal courts. If TDS believes that a loss arising from such legal proceedings is probable and can be reasonably estimated, an amount is accrued in the financial statements for the estimated loss. If only a range of loss can be determined, the best estimate within that range is accrued; if none of the estimates within that range is better than another, the low end of the range is accrued. The assessment of the expected outcomes of legal proceedings is a highly subjective process that requires judgments about future events. The legal proceedings are reviewed at least quarterly to determine the adequacy of accruals and related financial statement disclosures. The ultimate outcomes of legal proceedings could differ materially from amounts accrued in the financial statements.

TDS has accrued less than $1 million with respect to legal proceedings and unasserted claims as of December 31, 2016 and 2015. TDS has not accrued any amount for legal proceedings if it cannot estimate the amount of the possible loss or range of loss. TDS is unable to estimate any contingent loss in excess of the amounts accrued.

Note 14 Variable Interest Entities

TDS adopted the provisions of ASU 2015-02, Consolidation: Amendments to the Consolidation Analysis (“ASU 2015-02”), as of January 1, 2016. ASU 2015-02 changed consolidation accounting including revising certain criteria for identifying variable interest entities. As a result, certain consolidated subsidiaries and unconsolidated entities that were not defined as variable interest entities under previous accounting guidance are defined as variable interest entities under the provisions of ASU 2015-02. TDS’ modified retrospective adoption of ASU 2015-02 did not change the group of entities which TDS is required to consolidate in its financial statements. Accordingly, the adoption of ASU 2015-02 did not impact its financial position or results of operations.

Consolidated VIEs

TDS consolidates variable interest entities (“VIEs”) in which it has a controlling financial interest as defined by GAAP and is therefore deemed the primary beneficiary. A controlling financial interest will have both of the following characteristics: (a) the power to direct the VIE activities that most significantly impact economic performance and (b) the obligation to absorb the VIE losses and right to receive benefits that are significant to the VIE. TDS reviews these criteria initially at the time it enters into agreements and subsequently when events warranting reconsideration occur. These VIEs have risks similar to those described in the “Risk Factors” in TDS’ Form 10-K for the year ended December 31, 2016.

The following VIEs were formed to participate in FCC auctions of wireless spectrum and to fund, establish, and provide wireless service with respect to any FCC licenses won in the auctions:

- Advantage Spectrum L.P. (“Advantage Spectrum”) and Frequency Advantage L.P., the general partner of Advantage Spectrum;
- Aquinas Wireless L.P. (“Aquinas Wireless”); and
- King Street Wireless L.P. (“King Street Wireless”) and King Street Wireless, Inc., the general partner of King Street Wireless.

The power to direct the activities that most significantly impact the economic performance of these VIEs is shared. Specifically, the general partner of these VIEs has the exclusive right to manage, operate and control the limited partnerships and make all decisions to carry on the business of the partnerships. The general partner of each partnership needs the consent of the limited partner, an indirect TDS subsidiary, to sell or lease certain licenses, to make certain large expenditures, admit other partners or liquidate the limited partnerships. Although the power to direct the activities of these VIEs is shared, TDS has the most significant level of exposure to the variability associated with the economic performance of the VIEs, indicating that TDS is the primary beneficiary of the VIEs. Therefore, in accordance with GAAP, these VIEs are consolidated.

In March 2015, King Street Wireless made a $60 million distribution to its owners. Of this distribution, $6 million was provided to King Street Wireless, Inc. and $54 million was provided to U.S. Cellular.

FCC Auction 97 ended in January 2015. TDS participated in Auction 97 indirectly through its interest in Advantage Spectrum. An indirect subsidiary of U.S. Cellular is a limited partner in Advantage Spectrum. Advantage Spectrum applied as a “designated entity,” and received bid credits with respect to spectrum purchased in Auction 97. Advantage Spectrum was the winning bidder for 124 licenses for an aggregate bid of $338 million, after its designated entity discount of 25%. This amount is classified as Licenses in TDS’ Consolidated Balance Sheet at December 31, 2016, and 2015. Advantage Spectrum’s bid amount, less the initial deposit of $60 million paid in 2014, plus certain other charges totaling $2 million, was paid to the FCC in March 2015. These licenses were granted by the FCC in July 2016.

TDS also consolidates other VIEs that are limited partnerships that provide wireless service. ASU 2015-02 modified the manner in which limited partnerships and similar legal entities are evaluated under the variable interest model. A limited partnership is a variable interest entity unless the limited partners hold substantive participating rights or kick-out rights over the general partners. For certain limited partnerships, U.S. Cellular is the general partner and manages the operations. In these partnerships, the limited partners do not have substantive kick-out or participating rights and, further, such limited partners do not have the authority to remove the general partner. Therefore, beginning January 1, 2016, these limited partnerships are also recognized as VIEs and are consolidated under the variable interest model. Prior to the adoption of ASU 2015-02, these limited partnerships were consolidated under the voting interest model.

The following table presents the classification of the consolidated VIEs’ assets and liabilities in TDS’ Consolidated Balance Sheet.

December 31,	**2016[1]**	2015
(Dollars in millions)		
Assets		
Cash and cash equivalents	**$ 2**	$ 1
Accounts receivable	**39**	–
Other current assets	**6**	–
Licenses[2]	**649**	649
Property, plant and equipment, net	**93**	8
Other assets and deferred charges	**15**	–
Total assets	**$ 804**	$ 658
Liabilities		
Current liabilities	**$ 18**	$ –
Deferred liabilities and credits	**12**	1
Total liabilities	**$ 30**	$ 1

1 The increase in amounts from December 31, 2015 are due primarily to the adoption of ASU 2015-02 as disclosed above. ASU 2015-02 was adopted on a modified retrospective basis and, accordingly, prior year amounts have not been revised to reflect the change in guidance.

2 As disclosed above, payments totaling $338 million were made by Advantage Spectrum to the FCC relating to Auction 97. These licenses were granted in July 2016. Although the licenses had not yet been granted as of December 31, 2015, the payments to the FCC were classified as Licenses at such date.

Unconsolidated VIEs

TDS manages the operations of and holds a variable interest in certain other limited partnerships, but is not the primary beneficiary of these entities and, therefore, does not consolidate them under the variable interest model outlined in ASU 2015-02.

TDS’ total investment in these unconsolidated entities was $6 million and $5 million at December 31, 2016 and 2015, respectively, and is included in Investments in unconsolidated entities in TDS’ Consolidated Balance Sheet. The maximum exposure from unconsolidated VIEs is limited to the investment held by TDS in those entities.

Other Related Matters

TDS made contributions, loans and/or advances to its VIEs totaling $98 million, $281 million and $61 million in 2016, 2015 and 2014, respectively. TDS may agree to make additional capital contributions and/or advances to these or other VIEs and/or to their general partners to provide additional funding for operations or the development of licenses granted in various auctions. TDS may finance such amounts with a combination of cash on hand, borrowings under its revolving credit agreement and/or other long-term debt. There is no assurance that TDS will be able to obtain additional financing on commercially reasonable terms or at all to provide such financial support.

The limited partnership agreements of Advantage Spectrum, Aquinas Wireless and King Street Wireless also provide the general partner with a put option whereby the general partner may require the limited partner, a subsidiary of U.S. Cellular, to purchase its interest in the limited partnership. The general partner's put options related to its interests in King Street Wireless and Aquinas Wireless will become exercisable in 2019 and 2020, respectively. The general partner's put options related to its interest in Advantage Spectrum will become exercisable in 2021 and 2022. The put option price is determined pursuant to a formula that takes into consideration fixed interest rates and the market value of U.S. Cellular's Common Shares. Upon exercise of the put option, the general partner is required to repay borrowings due to U.S. Cellular. If the general partner does not elect to exercise its put option, the general partner may trigger an appraisal process in which the limited partner (a subsidiary of U.S. Cellular) may have the right, but not the obligation, to purchase the general partner's interest in the limited partnership at a price and on other terms and conditions specified in the limited partnership agreement. In accordance with requirements under GAAP, TDS is required to calculate a theoretical redemption value for all of the put options assuming they are exercisable at the end of each reporting period, even though such exercise is not contractually permitted. Pursuant to GAAP, this theoretical redemption value, net of amounts payable to U.S. Cellular for loans and accrued interest thereon made by U.S. Cellular to the general partners ("net put value"), was $1 million at December 31, 2016 and 2015. The net put value is recorded as Noncontrolling interests with redemption features in TDS' Consolidated Balance Sheet. Also in accordance with GAAP, changes in the redemption value of the put options, net of interest accrued on the loans, are recorded as a component of Net income attributable to noncontrolling interests, net of tax, in TDS' Consolidated Statement of Operations.

During 2015, TDS recorded out-of-period adjustments attributable to the third quarter of 2013 through the second quarter of 2015 related to an agreement with King Street Wireless. TDS determined that these adjustments were not material to the quarterly periods or the annual results for 2015. These out-of-period adjustments had the impact of reducing Net income by $3 million and Net income attributable to TDS shareholders by $3 million in 2015.

Note 15 Noncontrolling Interests

The following schedule discloses the effects of Net income attributable to TDS shareholders and changes in TDS' ownership interest in U.S. Cellular on TDS' equity for 2016, 2015 and 2014:

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Net income (loss) attributable to TDS shareholders	**$ 43**	$ 219	$ (136)
Transfer (to) from the noncontrolling interests			
Change in TDS' Capital in excess of par value from U.S. Cellular's issuance of U.S. Cellular shares	**(16)**	(15)	(12)
Change in TDS' Capital in excess of par value from U.S. Cellular's repurchase of U.S. Cellular shares	**1**	1	1
Change in TDS' Capital in excess of par value from common control transaction	**–**	–	7
Purchase of ownership in subsidiaries from noncontrolling interests	**–**	–	(1)
Net transfers (to) from noncontrolling interests	**(15)**	(14)	(5)
Change from net income (loss) attributable to TDS shareholders and transfers (to) from noncontrolling interests	**$ 28**	$ 205	$ (141)

Mandatorily Redeemable Noncontrolling Interests in Finite-Lived Subsidiaries

TDS' consolidated financial statements include certain noncontrolling interests that meet the GAAP definition of mandatorily redeemable financial instruments. These mandatorily redeemable noncontrolling interests represent interests held by third parties in consolidated partnerships, where the terms of the underlying partnership agreement provide for a defined termination date at which time the assets of the subsidiary are to be sold, the liabilities are to be extinguished and the remaining net proceeds are to be distributed to the noncontrolling interest holders and TDS in accordance with the respective partnership agreements. The termination dates of these mandatorily redeemable noncontrolling interests range from 2085 to 2113.

The estimated aggregate amount that would be due and payable to settle all of these noncontrolling interests, assuming an orderly liquidation of the finite-lived consolidated partnerships on December 31, 2016, net of estimated liquidation costs, is $13 million. This amount excludes redemption amounts recorded in Noncontrolling interests with redemption features in the Consolidated Balance Sheet. The estimate of settlement value was based on certain factors and assumptions which are subjective in nature. Changes in those factors and assumptions could result in a materially larger or smaller settlement amount. TDS currently has no plans or intentions relating to the liquidation of any of the related partnerships prior to their scheduled termination dates. The corresponding carrying value of the mandatorily redeemable noncontrolling interests in finite-lived consolidated partnerships at December 31, 2016 was $5 million, and is included in Noncontrolling interests in the Consolidated Balance Sheet. The excess of the aggregate settlement value over the aggregate carrying value of these mandatorily redeemable noncontrolling interests is due primarily to the unrecognized appreciation of the noncontrolling interest holders' share of the underlying net assets in the consolidated partnerships. Neither the noncontrolling interest holders' share, nor TDS' share, of the appreciation of the underlying net assets of these subsidiaries is reflected in the consolidated financial statements.

Note 16 Common Shareholders' Equity

Common Stock

As of December 31, 2016, Series A Common Shares were convertible, on a share for share basis, into Common Shares and 7,228,651 Common Shares were reserved for possible issuance upon conversion of Series A Common Shares.

The following table summarizes the number of Common and Series A Common Shares issued and repurchased.

(Shares in millions)	Common Shares	Series A Common Shares	Common Treasury Shares
Balance at December 31, 2013	126	7	24
Repurchase of shares	–	–	2
Dividend reinvestment, incentive and compensation plans	–	–	(1)
Balance at December 31, 2014	126	7	25
Dividend reinvestment, incentive and compensation plans	–	–	(1)
Balance at December 31, 2015	126	7	24
Dividend reinvestment, incentive and compensation plans	–	–	(1)
Balance at December 31, 2016	126	7	23

On August 2, 2013, the Board of Directors of TDS authorized a $250 million stock repurchase program for the purchase of TDS Common Shares from time to time pursuant to open market purchases, block transactions, private purchases or otherwise, depending on market conditions. This authorization does not have an expiration date.

In November 2009, the Board of Directors of U.S. Cellular authorized the repurchase of up to 1,300,000 Common Shares on an annual basis beginning in 2009 and continuing each year thereafter, on a cumulative basis. In December 2016, the U.S. Cellular Board amended this authorization to provide that such amount will be any amount from zero to 1,300,000 beginning on January 1, 2017, as determined by the U.S. Cellular Pricing Committee, and that if the Pricing Committee did not specify an amount for any year, such amount would be zero for such year. The Pricing Committee did not specify any increase as of January 1, 2017. The Pricing Committee was also authorized to decrease the cumulative amount of the authorization at any time, but has not taken any action to do so at this time. As a result, there was no change to the cumulative amount of the share repurchase authorization as of January 1, 2017. As of December 31, 2016, the total cumulative amount of Common Shares authorized to be purchased is 5,900,849. The authorization provides that share repurchases will be made pursuant to open market purchases, block purchases, private purchases, or otherwise, depending on market prices and other conditions. This authorization does not have an expiration date.

Tax-Deferred Savings Plan

TDS has reserved 90,341 Common Shares at December 31, 2016, for issuance under the TDS Tax-Deferred Savings Plan, a qualified profit-sharing plan pursuant to Sections 401(a) and 401(k) of the Internal Revenue Code. Participating employees have the option of investing their contributions and TDS' contributions in a TDS Common Share fund, a U.S. Cellular Common Share fund or certain unaffiliated funds.

Note 17 Stock-Based Compensation

TDS Consolidated

The following table summarizes stock-based compensation expense recognized during 2016, 2015 and 2014:

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Stock option awards	**$ 16**	$ 18	$ 16
Restricted stock unit awards	**24**	20	18
Performance share awards	**–**	–	–
Deferred compensation bonus and matching stock unit awards	**1**	1	1
Awards under Non-Employee Director compensation plan	**1**	1	1
Total stock-based compensation, before income taxes	**42**	40	36
Income tax benefit	**(16)**	(15)	(14)
Total stock-based compensation expense, net of income taxes	**$ 26**	$ 25	$ 22

At December 31, 2016, unrecognized compensation cost for all stock-based compensation awards was $50 million and is expected to be recognized over a weighted average period of 1.8 years.

The following table provides a summary of the stock-based compensation expense included in the Consolidated Statement of Operations for the years ended:

December 31,	2016	2015	2014
(Dollars in millions)			
Selling, general and administrative expense	**$ 39**	$ 37	$ 33
Cost of services and products	**3**	3	3
Total stock-based compensation	**$ 42**	$ 40	$ 36

TDS' tax benefits realized from the exercise of stock options and other awards totaled $15 million in 2016.

TDS (Excluding U.S. Cellular)

The information in this section relates to stock-based compensation plans using the equity instruments of TDS. Participants in these plans are employees of TDS Corporate and TDS Telecom and Non-employee Directors of TDS. Information related to plans using the equity instruments of U.S. Cellular are shown in the U.S. Cellular section following the TDS section.

Under the TDS Long-Term Incentive Plans, TDS may grant fixed and performance based incentive and non-qualified stock options, restricted stock, restricted stock units, and deferred compensation stock unit awards to key employees.

TDS had reserved 16,313,000 Common Shares at December 31, 2016 for equity awards granted and to be granted under the TDS Long-Term Incentive Plans in effect. At December 31, 2016, the only types of awards outstanding are fixed non-qualified stock option awards, restricted stock unit awards, performance share awards and deferred compensation stock unit awards.

TDS has also established a Non-Employee Directors' compensation plan under which it has reserved 112,000 TDS Common Shares at December 31, 2016 for issuance as compensation to members of the Board of Directors who are not employees of TDS.

TDS uses treasury stock to satisfy requirements for shares issued pursuant to its various stock-based compensation plans.

Long-Term Incentive Plan – Stock Options – Stock options granted to key employees are exercisable over a specified period not in excess of ten years. Stock options generally vest over periods up to three years from the date of grant. Stock options outstanding at December 31, 2016 expire between 2017 and 2026. However, vested stock options typically expire 30 days after the effective date of an employee's termination of employment for reasons other than retirement. Employees who leave at the age of retirement have 90 days (or one year if they satisfy certain requirements) within which to exercise their vested stock options. The exercise price of options equals the market value of TDS common stock on the date of grant.

TDS estimated the fair value of stock options granted in 2016, 2015 and 2014 using the Black Scholes valuation model and the assumptions shown in the table below:

	2016	2015	2014
Expected life	**6.2 years**	6.1 years	5.8 years
Expected annual volatility rate	**30.3%**	30.8%	39.6%
Dividend yield	**2.0%**	1.9%	2.0%
Risk-free interest rate	**1.3%**	1.8%	1.8%
Estimated annual forfeiture rate	**2.7%**	3.2%	2.9%

Pre-vesting forfeitures and expected life are estimated based on historical experience related to similar awards, giving considerations to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior. TDS believes that its historical experience provides the best estimates of future pre-vesting forfeitures and future expected life. The expected volatility assumption is based on historical volatility of TDS' common stock over a period commensurate with the expected life. The dividend yield assumption is equal to the dividends declared in the most recent year as a percentage of the share price on the date of grant. The risk-free interest rate assumption is determined using the U.S. Treasury Yield Curve Rate with a term length that approximates the expected life of the stock options.

A summary of TDS stock options (total and portion exercisable) and changes during 2016 is presented in the tables and narrative below.

Common Share Options	**Number of Options**	**Weighted Average Exercise Prices**	**Aggregate Intrinsic Value (in millions)**	**Weighted Average Remaining Contractual Life (in years)**
Outstanding at December 31, 2015	9,135,000	$ 30.29		
(6,009,000 exercisable)		32.54		
Granted	694,000	29.45		
Exercised	(562,000)	22.92		
Forfeited	(67,000)	28.13		
Expired	(523,000)	42.56		
Outstanding at December 31, 2016	8,677,000	$ 29.98	$ 19	4.8
(6,167,000 exercisable)		$ 30.59	$ 17	3.3

The weighted average grant date fair value per share of the TDS stock options granted in 2016, 2015 and 2014 was $7.24, $7.66 and $8.66, respectively. The aggregate intrinsic value of TDS stock options exercised in 2016, 2015 and 2014 was $4 million, $4 million and less than $1 million, respectively. The aggregate intrinsic value at December 31, 2016 presented in the table above represents the total pre-tax intrinsic value (the difference between TDS' closing stock prices and the exercise price, multiplied by the number of in-the-money options) that would have been received by option holders had all options been exercised on December 31, 2016.

Long-Term Incentive Plans – Restricted Stock Units – TDS also grants restricted stock unit awards to key employees. Each outstanding restricted stock unit is convertible into one Common Share Award. The restricted stock unit awards currently outstanding were granted in 2014, 2015 and 2016 and will vest in 2017, 2018 and 2019, respectively.

TDS estimates the fair value of restricted stock units by reducing the grant-date price of TDS' shares by the present value of the dividends expected to be paid on the underlying shares during the requisite service period, discounted at the appropriate risk-free interest rate, since employees are not entitled to dividends declared on the underlying shares while the restricted stock is unvested. The fair value is then recognized as compensation cost on a straight-line basis over the requisite service periods of the awards, which is generally the vesting period.

A summary of TDS nonvested restricted stock units and changes during 2016 is presented in the table below:

Common Restricted Stock Units	**Number**		**Weighted Average Grant Date Fair Value**
Nonvested at December 31, 2015	1,044,000	$	24.70
Granted	452,000	$	27.87
Vested	(341,000)	$	21.26
Forfeited	(25,000)	$	26.46
Nonvested at December 31, 2016	1,130,000	$	26.97

No restricted stock units vested during 2015. The total fair values as of the respective vesting dates of restricted stock units vested during 2016 and 2014 were $10 million and $8 million, respectively. The weighted average grant date fair value per share of the restricted stock units granted in 2016, 2015 and 2014 was $27.87, $27.57 and $25.26, respectively.

Long-Term Incentive Plans – Performance Share Awards ("Performance Shares") – Beginning in 2016, TDS granted Performance Shares, specifically performance stock units, to certain TDS executive officers. Each recipient may be entitled to shares of TDS common stock equal to 0% to 200% of a communicated target award depending on the achievement of predetermined performance-based and market-based operating targets over a three year period. Performance-based operating targets include Total Revenue and Return on Capital. Market-based operating targets are measured against TDS' total shareholder return relative to a defined peer group. Performance Shares accumulate dividend equivalents which are forfeitable if the performance metrics are not achieved.

TDS estimates fair value of performance-based operating targets using TDS' closing stock price on the date of grant. An estimate of the number of Performance Shares expected to vest based upon achieving the performance-based operating targets is made and the fair value is expensed on a straight-line basis over the requisite service period. Each reporting period these estimates are reviewed and stock compensation expense is adjusted accordingly to reflect the new estimates of total awards expected to vest. If any part of the Performance Shares does not vest as a result of the established performance-based operating targets not being achieved, the related stock compensation expense is reversed.

TDS estimates the market-based operating target's fair value using an internally developed valuation model. This estimated fair value approximated TDS' closing stock price at the date of grant for market-based share awards granted in 2016. This market-based operating target value determined at the date of grant is expensed on a straight-line basis over the requisite service period and the stock compensation expense is not adjusted during the performance period for the subsequent changes in the value of the market-based share awards and will not be reversed even if the market-based operating target is not achieved.

A summary of TDS nonvested Performance Shares and changes during 2016 is presented in the table below:

Common Performance Shares	**Number**		**Weighted Average Grant Date Fair Value**
Nonvested at December 31, 2015	–	$	–
Granted	97,000	$	29.45
Nonvested at December 31, 2016	97,000	$	29.45

Long-Term Incentive Plans – Deferred Compensation Stock Units – Certain TDS employees may elect to defer receipt of all or a portion of their annual bonuses and to receive a company matching contribution on the amount deferred. All bonus compensation that is deferred by employees electing to participate is immediately vested and is deemed to be invested in TDS Common Share units. The amount of TDS' matching contribution depends on the portion of the annual bonus that is deferred. Participants receive a 25% stock unit match for amounts deferred up to 50% of their total annual bonus and a 33% match for amounts that exceed 50% of their total annual bonus; such matching contributions also are deemed to be invested in TDS Common Share units and vest over three years.

The total fair values of deferred compensation stock units that vested during 2016, 2015 and 2014 were less than $1 million. The weighted average grant date fair value per share of the deferred compensation stock units granted in 2016, 2015 and 2014 was $27.94, $25.36 and $23.27, respectively. As of December 31, 2016, there were 108,000 vested but unissued deferred compensation stock units valued at $3 million.

Compensation of Non-Employee Directors – TDS issued 27,000, 28,000 and 33,000 Common Shares under its Non-Employee Director plan in 2016, 2015 and 2014, respectively.

Dividend Reinvestment Plans – TDS had reserved 321,000 Common Shares at December 31, 2016, for issuance under Automatic Dividend Reinvestment and Stock Purchase Plans and 78,000 Series A Common Shares for issuance under the Series A Common Share Automatic Dividend Reinvestment Plan. These plans enabled holders of TDS' Common Shares and Preferred Shares to reinvest cash dividends in Common Shares and holders of Series A Common Shares to reinvest cash dividends in Series A Common Shares. The purchase price of the shares is 95% of the market value, based on the average of the daily high and low sales prices for TDS' Common Shares on the New York Stock Exchange for the ten trading days preceding the date on which the purchase is made. These plans are considered non-compensatory plans; therefore no compensation expense is recognized for stock issued under these plans.

U.S. Cellular

The information in this section relates to stock-based compensation plans using the equity instruments of U.S. Cellular. Participants in these plans are employees of U.S. Cellular and Non-employee Directors of U.S. Cellular. Information related to plans using the equity instruments of TDS are shown in the previous section.

U.S. Cellular has established the following stock-based compensation plans: Long-Term Incentive Plans and a Non-Employee Director compensation plan.

Under the U.S. Cellular Long-Term Incentive Plans, U.S. Cellular may grant fixed and performance based incentive and non-qualified stock options, restricted stock, restricted stock units, and deferred compensation stock unit awards to key employees. At December 31, 2016, the only types of awards outstanding are fixed non-qualified stock option awards, restricted stock unit awards, and deferred compensation stock unit awards.

Under the Non-Employee Director compensation plan, U.S. Cellular may grant Common Shares to members of the Board of Directors who are not employees of U.S. Cellular or TDS.

At December 31, 2016, U.S. Cellular had reserved 14,759,000 Common Shares for equity awards granted and to be granted under the Long-Term Incentive Plans and 169,000 Common Shares for issuance under the Non-Employee Director compensation plan.

U.S. Cellular uses treasury stock to satisfy requirements for Common Shares issued pursuant to its various stock-based compensation plans.

Long-Term Incentive Plans – Stock Options – Stock options granted to key employees are exercisable over a specified period not in excess of ten years. Stock options generally vest over a period of three years from the date of grant. Stock options outstanding at December 31, 2016 expire between 2017 and 2026. However, vested stock options typically expire 30 days after the effective date of an employee's termination of employment for reasons other than retirement. Employees who leave at the age of retirement have 90 days (or one year if they satisfy certain requirements) within which to exercise their vested stock options. The exercise price of options equals the market value of U.S. Cellular Common Shares on the date of grant.

U.S. Cellular estimated the fair value of stock options granted during 2016, 2015 and 2014 using the Black-Scholes valuation model and the assumptions shown in the table below.

	2016	2015	2014
Expected life	**4.7 years**	4.6 years	4.5 years
Expected annual volatility rate	**30.5%**	30.1%	28.0%-28.1%
Dividend yield	**0%**	0%	0%
Risk-free interest rate	**1.2%**	1.2%	1.4%-1.5%
Estimated annual forfeiture rate	**9.4%**	9.7%	9.4%

Pre-vesting forfeitures and expected life are estimated based on historical experience related to similar awards, giving consideration to the contractual terms of the stock-based awards, vesting schedules and expectations of future employee behavior. U.S. Cellular believes that its historical experience provides the best estimates of future pre-vesting forfeitures and future expected life. The expected volatility assumption is based on the historical volatility of U.S. Cellular's common stock over a period commensurate with the expected life. The dividend yield assumption is zero because U.S. Cellular has never paid a dividend, except a special cash dividend in June 2013, and has expressed its intention to retain all future earnings in the business. The risk-free interest rate assumption is determined using the U.S. Treasury Yield Curve Rate with a term length that approximates the expected life of the stock options.

The fair value of options is recognized as compensation cost using an accelerated attribution method over the requisite service periods of the awards, which is generally the vesting period.

A summary of U.S. Cellular stock options outstanding (total and portion exercisable) and changes during 2016 is presented in the table below:

Common Share Options	Number of Options	Weighted Average Exercise Price	Aggregate Intrinsic Value (in millions)	Weighted Average Remaining Contractual Life (in years)
Outstanding at December 31, 2015	4,102,000	$ 40.62		
(1,849,000 exercisable)		44.33		
Granted	898,000	45.87		
Exercised	(541,000)	35.34		
Forfeited	(197,000)	39.08		
Expired	(289,000)	50.06		
Outstanding at December 31, 2016	3,973,000	$ 41.92	$ 14	6.8
(1,937,000 exercisable)		$ 42.54	$ 7	5.0

The weighted average grant date fair value per share of the U.S. Cellular stock options granted in 2016, 2015 and 2014 was $12.77, $9.94 and $10.68, respectively. The aggregate intrinsic value of U.S. Cellular stock options exercised in 2016, 2015 and 2014 was $4 million, $2 million and $2 million, respectively. The aggregate intrinsic value at December 31, 2016 presented in the table above represents the total pre-tax intrinsic value (the difference between U.S. Cellular's closing stock price and the exercise price multiplied by the number of in-the-money options) that would have been received by option holders had all options been exercised on December 31, 2016.

Long-Term Incentive Plans – Restricted Stock Units – Restricted stock unit awards granted to key employees generally vest after three years. U.S. Cellular estimates the fair value of restricted stock units based on the closing market price of U.S. Cellular shares on the date of grant. The fair value is then recognized as compensation cost on a straight-line basis over the requisite service periods of the awards, which is generally the vesting period.

A summary of U.S. Cellular nonvested restricted stock units at December 31, 2016 and changes during the year then ended is presented in the table below:

Common Restricted Stock Units	Number	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2015	1,194,000	$ 36.70
Granted	571,000	43.32
Vested	(348,000)	31.52
Forfeited	(107,000)	39.28
Nonvested at December 31, 2016	1,310,000	$ 40.74

The total fair value of restricted stock units that vested during 2016, 2015 and 2014 was $15 million, $13 million and $11 million, respectively. The weighted average grant date fair value per share of the restricted stock units granted in 2016, 2015 and 2014 was $43.32, $37.24 and $41.24, respectively.

Long-Term Incentive Plans – Deferred Compensation Stock Units – Certain U.S. Cellular employees may elect to defer receipt of all or a portion of their annual bonuses and to receive a company matching contribution on the amount deferred. All bonus compensation that is deferred by employees electing to participate is immediately vested and is deemed to be invested in U.S. Cellular Common Share stock units. The amount of U.S. Cellular's matching contribution depends on the portion of the annual bonus that is deferred. Participants receive a 25% match for amounts deferred up to 50% of their total annual bonus and a 33% match for amounts that exceed 50% of their total annual bonus; such matching contributions also are deemed to be invested in U.S. Cellular Common Share stock units and vest over three years.

The total fair value of deferred compensation stock units that vested during 2016 and 2015 was less than $1 million. The weighted average grant date fair value per share of the deferred compensation stock units granted in 2016 and 2015 was $41.31 and $35.96, respectively. There were no deferred compensation stock units granted or that vested during 2014. As of December 31, 2016, there were 7,000 vested but unissued deferred compensation stock units valued at less than $1 million.

Compensation of Non-Employee Directors – U.S. Cellular issued 13,000, 15,000 and 14,200 Common Shares in 2016, 2015 and 2014, respectively, under its Non-Employee Director compensation plan.

Note 18 Business Segment Information

U.S. Cellular and TDS Telecom are billed for all services they receive from TDS, consisting primarily of information processing, accounting and finance, and general management services. Such billings are based on expenses specifically identified to U.S. Cellular and TDS Telecom and on allocations of common expenses. Management believes the method used to allocate common expenses is reasonable and that all expenses and costs applicable to U.S. Cellular and TDS Telecom are reflected in the accompanying business segment information on a basis that is representative of what they would have been if U.S. Cellular and TDS Telecom operated on a stand-alone basis.

Financial data for TDS' reportable segments for 2016, 2015 and 2014, is as follows. See Note 1 — Summary of Significant Accounting Policies and Recent Accounting Pronouncements for additional information.

Year Ended or as of December 31, 2016	U.S. Cellular	TDS Telecom: Wireline	TDS Telecom: Cable	TDS Telecom: HMS	TDS Telecom: TDS Telecom Eliminations	TDS Telecom: TDS Telecom Total	Corporate, Eliminations and Other	Total
(Dollars in millions)								
Operating revenues								
Service	$ 3,030	$ 696	$ 185	$ 119	$ (5)	$ 995	$ (26)	$ 3,999
Equipment and product sales	909	2	–	155	–	157	39	1,105
Total operating revenues	3,939	698	185	273	(5)	1,151	14	5,104
Cost of services (excluding Depreciation, amortization and accretion expense reported below)	760	258	94	82	(4)	430	(1)	1,189
Cost of equipment and products	1,081	2	–	128	–	131	28	1,240
Selling, general and administrative	1,480	197	51	48	–	295	(16)	1,759
Depreciation, amortization and accretion	618	159	37	29	–	224	8	850
(Gain) loss on asset disposals, net	22	2	2	–	–	4	1	27
(Gain) loss on sale of business and other exit costs, net	–	–	–	–	–	–	(1)	(1)
(Gain) loss on license sales and exchanges, net	(19)	(1)	–	–	–	(1)	–	(20)
Operating income (loss)	(3)	80	2	(14)	–	67	(4)	60
Equity in earnings of unconsolidated entities	140	–	–	–	–	–	–	140
Interest and dividend income	57	3	–	–	–	3	2	62
Interest expense	(113)	1	–	(4)	–	(3)	(54)	(170)
Other, net	1	–	–	–	–	–	(1)	–
Income (loss) before income taxes	82	83	2	(18)	–	67	(57)	92
Income tax expense (benefit)[1]	33					25	(18)	40
Net income (loss)	49					42	(39)	52
Add back:								
Depreciation, amortization and accretion	618	159	37	29	–	224	8	850
(Gain) loss on asset disposals, net	22	2	2	–	–	4	1	27
(Gain) loss on sale of business and other exit costs, net	–	–	–	–	–	–	(1)	(1)
(Gain) loss on license sales and exchanges, net	(19)	(1)	–	–	–	(1)	–	(20)
Interest expense	113	(1)	–	4	–	3	54	170
Income tax expense (benefit)[1]	33					25	(18)	40
Adjusted EBITDA[2]	$ 816	$ 242	$ 41	$ 15	$ –	$ 298	$ 4	$ 1,118
Investments in unconsolidated entities	$ 413	$ 4	$ –	$ –	$ –	$ 4	$ 34	$ 451
Total assets	$ 7,110	$ 1,231	$ 599	$ 264	$ –	$ 2,094	$ 242	$ 9,446
Capital expenditures	$ 446	$ 108	$ 54	$ 11	$ –	$ 173	$ 11	$ 630

Year Ended or as of December 31, 2015	U.S. Cellular	TDS Telecom: Wireline	TDS Telecom: Cable	TDS Telecom: HMS	TDS Telecom: TDS Telecom Eliminations	TDS Telecom: TDS Telecom Total	Corporate, Eliminations and Other	Total
(Dollars in millions)								
Operating revenues								
Service	$ 3,350	$ 699	$ 175	$ 117	$ (5)	$ 986	$ (14)	$ 4,322
Equipment and product sales	647	2	–	170	–	172	35	854
Total operating revenues	3,997	701	175	287	(5)	1,158	21	5,176
Cost of services (excluding Depreciation, amortization and accretion expense reported below)	775	255	79	85	(4)	414	2	1,191
Cost of equipment and products	1,053	2	–	143	–	145	26	1,224
Selling, general and administrative	1,494	194	54	47	–	294	(7)	1,781
Depreciation, amortization and accretion	607	166	35	27	–	228	9	844
(Gain) loss on asset disposals, net	16	5	1	–	–	6	–	22
(Gain) loss on sale of business and other exit costs, net	(114)	(10)	–	–	–	(10)	(12)	(136)
(Gain) loss on license sales and exchanges, net	(147)	–	–	–	–	–	–	(147)
Operating income (loss)	313	89	6	(15)	–	79	5	397
Equity in earnings of unconsolidated entities	140	–	–	–	–	–	–	140
Interest and dividend income	36	2	–	–	–	2	1	39
Interest expense	(86)	1	–	(2)	–	(1)	(55)	(142)
Other, net	1	–	–	–	–	–	–	1
Income (loss) before income taxes	404	92	7	(18)	–	81	(50)	435
Income tax expense (benefit)[1]	157					35	(20)	172
Net income (loss)	247					46	(30)	263
Add back:								
Depreciation, amortization and accretion	607	166	35	27	–	228	9	844
(Gain) loss on asset disposals, net	16	5	1	–	–	6	–	22
(Gain) loss on sale of business and other exit costs, net	(114)	(10)	–	–	–	(10)	(12)	(136)
(Gain) loss on license sales and exchanges, net	(147)	–	–	–	–	–	–	(147)
Interest expense	86	(1)	–	2	–	1	55	142
Income tax expense (benefit)[1]	157					35	(20)	172
Adjusted EBITDA[2]	$ 852	$ 252	$ 42	$ 12	$ –	$ 306	$ 2	$ 1,160
Investments in unconsolidated entities	$ 363	$ 4	$ –	$ –	$ –	$ 4	$ 35	$ 402
Total assets	$ 7,060	$ 1,312	$ 578	$ 286	$ –	$ 2,176	$ 186	$ 9,422
Capital expenditures	$ 533	$ 140	$ 52	$ 27	$ –	$ 219	$ 7	$ 759

Year Ended or as of December 31, 2014	U.S. Cellular	TDS Telecom: Wireline	TDS Telecom: Cable	TDS Telecom: HMS	TDS Telecom: TDS Telecom Eliminations	TDS Telecom: TDS Telecom Total	Corporate, Eliminations and Other	Total
(Dollars in millions)								
Operating revenues								
Service	$ 3,398	$ 715	$ 117	$ 110	$ (4)	$ 938	$ (7)	$ 4,329
Equipment and product sales	495	2	–	149	–	151	34	680
Total operating revenues	3,893	716	117	259	(4)	1,088	28	5,009
Cost of services (excluding Depreciation, amortization and accretion reported below)	770	257	54	77	(4)	385	9	1,164
Cost of equipment and products	1,193	2	–	126	–	129	25	1,347
Selling, general and administrative	1,592	190	36	53	–	279	(6)	1,865
Depreciation, amortization and accretion	606	169	24	27	–	220	11	837
Loss on impairment of assets	–	–	–	84	–	84	4	88
(Gain) loss on asset disposals, net	21	2	2	–	–	5	1	27
(Gain) loss on sale of business and other exit costs, net	(33)	(2)	–	–	–	(2)	19	(16)
(Gain) loss on license sales and exchanges, net	(113)	–	–	–	–	–	–	(113)
Operating income (loss)	(143)	98	–	(109)	–	(10)	(37)	(190)
Equity in earnings of unconsolidated entities	130	–	–	–	–	–	2	132
Interest and dividend income	12	2	–	–	–	2	3	17
Interest expense	(57)	3	–	(2)	–	1	(55)	(111)
Other, net	(1)	–	–	–	–	–	1	–
Income (loss) before income taxes	(59)	104	–	(111)	–	(7)	(86)	(152)
Income tax expense (benefit)[1]	(12)					18	(11)	(5)
Net income (loss)	(47)					(24)	(76)	(147)
Add back:								
Depreciation, amortization and accretion	606	169	24	27	–	220	11	837
Loss on impairment of assets	–	–	–	84	–	84	4	88
(Gain) loss on asset disposals, net	21	2	2	–	–	5	1	27
(Gain) loss on sale of business and other exit costs, net	(33)	(2)	–	–	–	(2)	19	(16)
(Gain) loss on license sales and exchanges, net	(113)	–	–	–	–	–	–	(113)
Interest expense	57	(3)	–	2	–	(1)	55	111
Income tax expense (benefit)[1]	(12)					18	(11)	(5)
Adjusted EBITDA[2]	$ 479	$ 270	$ 26	$ 2	$ –	$ 298	$ 5	$ 782
Investments in unconsolidated entities	$ 283	$ 4	$ –	$ –	$ –	$ 4	$ 35	$ 322
Total assets	$ 6,462	$ 1,419	$ 564	$ 269	$ –	$ 2,252	$ 140	$ 8,854
Capital expenditures	$ 558	$ 136	$ 36	$ 37	$ –	$ 208	$ 5	$ 771

Numbers may not foot due to rounding.

1 Income tax expense (benefit) is not provided at the individual segment level for Wireline, Cable and HMS. TDS calculates income tax expense for “TDS Telecom Total”.

2 Adjusted earnings before interest, taxes, depreciation, amortization and accretion (“Adjusted EBITDA”) is a segment measure reported to the chief operating decision maker for purposes of making decisions about allocating resources to the segments and assessing their performance. Adjusted EBITDA is defined as net income, adjusted for the items set forth in the reconciliation above. TDS believes Adjusted EBITDA is a useful measure of TDS’ operating results before significant recurring non-cash charges, gains and losses, and other items as presented above as they provide additional relevant and useful information to investors and other users of TDS' financial data in evaluating the effectiveness of its operations and underlying business trends in a manner that is consistent with management's evaluation of business performance.

Note 19 Supplemental Cash Flow Disclosures

Following are supplemental cash flow disclosures regarding interest paid and income taxes paid.

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Interest paid	$ **168**	$ 135	$ 109
Income taxes paid, net of refunds received	**(39)**	57	49

Following are supplemental cash flow disclosures regarding transactions related to stock-based compensation awards. In certain situations, TDS and U.S. Cellular withhold shares that are issuable upon the exercise of stock options or the vesting of restricted shares to cover, and with a value equivalent to, the exercise price and/or the amount of taxes required to be withheld from the stock award holder at the time of the exercise or vesting. TDS and U.S. Cellular then pay the amount of the required tax withholdings to the taxing authorities in cash.

TDS:

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Common Shares withheld	**126,747**	3,163	109,061
Aggregate value of Common Shares withheld	$ **4**	$ –	$ 3
Cash receipts upon exercise of stock options	**13**	13	1
Cash disbursements for payment of taxes	**(4)**	–	(3)
Net cash receipts (disbursements) from exercise of stock options and vesting of other stock awards	$ **9**	$ 13	$ (2)

U.S. Cellular:

Year Ended December 31,	2016	2015	2014
(Dollars in millions)			
Common Shares withheld	**308,010**	228,011	163,355
Aggregate value of Common Shares withheld	$ **13**	$ 8	$ 7
Cash receipts upon exercise of stock options	**12**	7	5
Cash disbursements for payment of taxes	**(6)**	(5)	(4)
Net cash receipts from exercise of stock options and vesting of other stock awards	$ **6**	$ 2	$ 1

Under the American Recovery and Reinvestment Act of 2009 ("the Recovery Act"), TDS Telecom was awarded and received $94 million in federal grants and provided $32 million of its own funds to complete 44 projects to provide broadband access in unserved areas. TDS Telecom received $15 million in grants in 2015 and 2014. These funds reduced the carrying amount of the assets to which they relate. TDS Telecom has received all funding due under this program.

On September 27, 2012, the FCC conducted a single round, sealed bid, reverse auction to award up to $300 million in one-time Mobility Fund Phase I support to successful bidders that commit to provide 3G, or better, wireless service in areas designated as unserved by the FCC. This auction was designated by the FCC as Auction 901. U.S. Cellular and several of its wholly-owned subsidiaries participated in Auction 901 and were winning bidders in eligible areas within 10 states and will receive up to $40 million in one-time support from the Mobility Fund. These funds when received reduce the carrying amount of the assets to which they relate or offset operating expenses. In connection with these winning bids, in June 2013, U.S. Cellular provided $17 million letters of credit to the FCC, of which $2 million remained outstanding as of December 31, 2016. U.S. Cellular has received $35 million in support funds, of which the entire balance has been spent as of December 31, 2016. U.S. Cellular has set up a receivable in the amount of $2 million as of December 31, 2016 pending final review from the FCC to release funds.

Note 20 Certain Relationships and Related Transactions

The following persons are partners of Sidley Austin LLP, the principal law firm of TDS and its subsidiaries: Walter C.D. Carlson, a trustee and beneficiary of a voting trust that controls TDS, the non-executive Chairman of the Board and member of the Board of Directors of TDS and a director of U.S. Cellular, a subsidiary of TDS; William S. DeCarlo, the General Counsel of TDS and an Assistant Secretary of TDS and certain subsidiaries of TDS; and Stephen P. Fitzell, the General Counsel of U.S. Cellular and TDS Telecommunications Corporation and an Assistant Secretary of certain subsidiaries of TDS. Walter C.D. Carlson does not provide legal services to TDS or its subsidiaries. TDS, U.S. Cellular and their subsidiaries incurred legal costs from Sidley Austin LLP of $9 million in 2016, $12 million in 2015 and $15 million in 2014.

The Audit Committee of the Board of Directors of TDS is responsible for the review and evaluation of all related-party transactions as such term is defined by the rules of the New York Stock Exchange.

Reports of Management

Management's Responsibility for Financial Statements

Management of Telephone and Data Systems, Inc. has the responsibility for preparing the accompanying consolidated financial statements and for their integrity and objectivity. The statements were prepared in accordance with accounting principles generally accepted in the United States of America and, in management's opinion, were fairly presented. The financial statements included amounts that were based on management's best estimates and judgments. Management also prepared the other information in the annual report and is responsible for its accuracy and consistency with the financial statements.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, has audited these consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States) and has expressed herein its unqualified opinion on these financial statements.

/s/ LeRoy T. Carlson, Jr.
LeRoy T. Carlson, Jr.
President and
Chief Executive Officer
(principal executive officer)

/s/ Douglas D. Shuma
Douglas D. Shuma
Senior Vice President - Finance and
Chief Accounting Officer
(principal financial officer and principal
accounting officer)

/s/ Douglas W. Chambers
Douglas W. Chambers
Vice President and Controller

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. TDS' internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America ("GAAP"). TDS' internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the issuer; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the issuer are being made only in accordance with authorizations of management and, where required, the Board of Directors of the issuer; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the issuer's assets that could have a material effect on the interim or annual consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Under the supervision and with the participation of TDS' management, including its principal executive officer and principal financial officer, TDS conducted an evaluation of the effectiveness of its internal control over financial reporting as of December 31, 2016, based on the criteria established in the 2013 version of *Internal Control — Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management has concluded that TDS maintained effective internal control over financial reporting as of December 31, 2016 based on criteria established in the 2013 version of *Internal Control — Integrated Framework* issued by the COSO.

The effectiveness of TDS' internal control over financial reporting as of December 31, 2016 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in the firm's report included herein.

/s/ LeRoy T. Carlson, Jr.	/s/ Douglas D. Shuma
LeRoy T. Carlson, Jr.	Douglas D. Shuma
President and	Senior Vice President - Finance and
Chief Executive Officer	Chief Accounting Officer
(principal executive officer)	(principal financial officer and principal
	accounting officer)

/s/ Douglas W. Chambers

Douglas W. Chambers
Vice President and Controller

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Telephone and Data Systems, Inc.:

In our opinion, based on our audits and the report of other auditors, the accompanying consolidated balance sheets and the related consolidated statements of operations, comprehensive income (loss), changes in equity, and cash flows present fairly, in all material respects, the financial position of Telephone and Data Systems, Inc. and its subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, based on our audit, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We did not audit the financial statements of Los Angeles SMSA Limited Partnership, a 5.5% owned entity accounted for by the equity method of accounting. The consolidated financial statements of Telephone and Data Systems, Inc. reflect an investment in this partnership of $240,100,000 and $197,600,000 as of December 31, 2016 and 2015, respectively, and equity earnings of $71,400,000, $74,000,000 and $71,800,000 for each of the three years in the period ended December 31, 2016. The financial statements of Los Angeles SMSA Limited Partnership were audited by other auditors whose report thereon has been furnished to us, and our opinion on the financial statements expressed herein, insofar as it relates to the amounts included for Los Angeles SMSA Limited Partnership, is based solely on the report of the other auditors. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits and the report of other auditors provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP
Chicago, Illinois
February 24, 2017