

## WIKIPEDIA DESCRIPTIONS OF THE TWIN TOWERS COLLAPSE PROGRESSION MODES

2004-2026

A section called “Total Progressive Collapse” first appeared in Wikipedia in February, 2007. The changes in this section until the present day serve as the best indication of how the Twin Tower collapse progression modes were and are understood through Wikipedia.

### Wikipedia sections covering Twin Towers collapse progression modes - Timeline

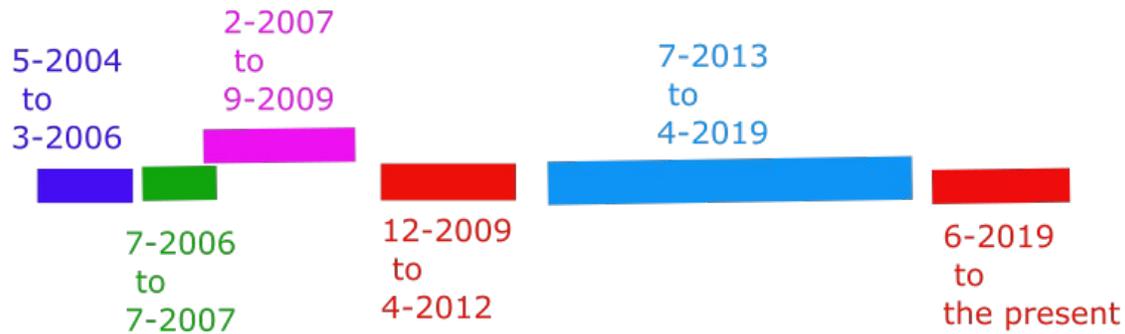


The red region covers a section called ‘Total Progressive Collapse’ which first appeared in February, 2007. This is where Wikipedia forms the most stable, ‘permanent’ version of their presentation of the Twin Towers collapse progression modes.

The earlier sections called ‘Collapse Mechanism’ (blue) and ‘Collapse of the Two Towers’ (green) have descriptions of the Twin Towers collapse progression modes up to July, 2007 and then the sections disappear leaving the section ‘Total Progressive Collapse’ (red) as the only description of the collapse progression modes of the Twin Towers to the present day.

The actual descriptions of the Twin Towers collapse progression modes in Wikipedia from 2004 to the present time fall into 6 distinguishable stages as shown in the graphic below.

## Wikipedia descriptions of Twin Towers collapse progressions came in 6 different (contradictory) phases



In the two red phases (in the above graphic) the collapses are described as ‘crushing down’, before ‘crushing up’. This is the same as the model in the Journal of Engineering Mechanics (JEM) from 2007 onward.

The first 3 phases (until September, 2009) describe the Twin Towers collapse progressions in generic and general terms. They were unknowable, obscured and chaotic.

The first time the collapse progression descriptions in Wikipedia took on any *specific, distinct form* was when they were described as crushing blocks, ‘crushing down’ before ‘crushing up’ (from December, 2012 to the present time).

### THE SECTION ‘TOTAL PROGRESSIVE COLLAPSE’

This is a record of how the section called ‘Total Progressive Collapse’ changed to the current version from 2007 listed from most the current version backward in time. The entire section is reproduced for each date. These are exact quotes with no commentary.

8-2021:

Structural systems respond very differently to [static and dynamic loads](#) and, while the towers were designed to support enormous weight under normal conditions, they provided little resistance to the moving mass of the section above the damaged floors. In both cases, the collapses began with the drop of the upper section through the height of at least one story (roughly three meters or ten feet), yet a fall of only half a meter (about 20 inches) would have released the necessary energy to begin an unstoppable collapse.[\[31\]](#)

From there collapse proceeded through two phases. During the *crush-down* phase, the upper block destroyed the structure below in a progressive series of column failures roughly one story at a time. Each failure began with the impact of the upper block on the columns of the lower section, mediated by a growing layer of rubble consisting mainly of concrete from the floor slabs. The energy from each impact was "reintroduced into the structure in [the] subsequent impact, ... concentrate[d] in the load-bearing elements directly affected by the impact."[\[26\]](#) This buckled the columns of the story immediately beneath the advancing destruction down to the next point of lateral support, usually the floor trusses of the given story. After the columns buckled the block was once again unsupported and fell through the distance of that story, again impacting the columns of the story below, which then buckled in the same way.

This repeated until the upper block reached the ground and the *crush-up* phase began. Here, too, the columns buckled one story at a time, now starting from the bottom. As each story failed, the remaining block fell through the height of the story, onto the next one, which it also crushed, until the roof finally hit the ground.[\[6\]](#) The process accelerated throughout, and by the end each story was being crushed in less than a tenth of a second.[\[31\]](#)

10-2019:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[5\]](#) Structural systems respond very differently to [static and dynamic loads](#) and, while the buildings were designed to support enormous weight under normal conditions, they provided little resistance to the moving mass of the section above the damaged floors. The collapses began with the drop of the upper section through the height of at least one story (roughly three meters or ten feet), yet a fall of only half a meter (about 20 inches) would have released the necessary energy to begin an unstoppable collapse.[\[29\]](#)

The collapse proceeded through two phases. During the *crush-down* phase, the upper block destroyed the structure below in a progressive series of column failures roughly one story at a time. Each failure began with the impact of the upper block on the columns of the lower section, mediated by a growing

layer of rubble consisting mainly of concrete from the floor slabs. This buckled the columns of the story immediately beneath the advancing destruction down to the next point of lateral support, usually the floor trusses of the given story. After the columns buckled the block was once again unsupported and fell through the distance of that story, again impacting the columns of the story below, which then buckled in the same way. This repeated until the upper block reached the ground and the *crush-up* phase began. Here, too, the columns buckled one story at a time, now starting from the bottom. As each story failed, the remaining block fell through the height of the story, onto the next one, which it also crushed, until the roof finally hit the ground.[\[5\]](#) The process accelerated throughout, and by the end each story was being crushed in less than a tenth of a second.[\[29\]](#)

9-2019:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[5\]](#) Structural systems respond very differently to [static and dynamic loads](#) and, while the buildings were designed to support enormous weight under normal conditions, they provided little resistance to the moving mass of the section above the damaged floors. The collapses began with the drop of the upper section through the height of at least one story (roughly three meters or ten feet) and a fall of only half a meter (about 20 inches) would have released the necessary energy to begin an unstoppable collapse.[\[29\]](#)

The collapse proceeded through two phases. During the *crush-down* phase, the upper block destroyed the structure below in a progressive series of column failures roughly one story at a time. Each failure began with the impact of the upper block on the columns of the lower section, mediated by a growing layer of rubble consisting mainly of concrete from the floor slabs. This buckled the columns of the story immediately beneath the advancing destruction down to the next point of lateral support, usually the floor trusses of the given story. After the columns buckled the block was once again unsupported and fell through the distance of that story, again impacting the columns of the story below, which then buckled in the same way. This repeated until the upper block reached the ground and the *crush-up* phase began. Here, too, the columns buckled one story at a time, now starting from the bottom. As each story failed, the remaining block fell through the height of the story, onto the next one, which it also crushed, until the roof finally hit the ground.[\[5\]](#) The process accelerated throughout, and by the end each story was being crushed in less than a tenth of a second.[\[29\]](#)

6-2019:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[47\]](#) After the collapse initiated, it proceeded through two phases. During the *crush-down* phase, the upper block destroyed the structure below in a progressive and accelerating series of column

failures. After falling through the distance of a single story, the block impacted the columns of the story below, which then buckled, allowing the block to fall through the distance of that story. This process continued until the upper block reached the ground and the *crush-up* phase began. Here, the columns also buckled successively, one story at a time, starting from the bottom of the upper section. As each story buckled, the weight of the remaining block pushed down from above until the entire section had been crushed.[47]

While the buildings were designed to support enormous [static loads](#), they provided little resistance to the moving mass of the sections above the floors where the collapses initiated. Structural systems respond very differently to static and dynamic loads, and since the motion of the falling portion began as a free fall through the height of at least one story (roughly three meters or 10 feet), the structure beneath them was unable to stop the collapses once they began. Indeed, a fall of only half a meter (about 20 inches) would have been enough to release the necessary energy to begin an unstoppable collapse.[48]

4-2019:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#). [47] Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside, pushed by the increasing pile of rubble. The result was that the walls peeled off and separated away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[48] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[44]

With this image: <https://upload.wikimedia.org/wikipedia/commons/d/dd/NorthWTCcollapse.png>

12-2018:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#). [47] Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside, pushed by the increasing pile of rubble. The result was that the walls peeled off and separated away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many

panels randomly scattered.[48] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[44]

same image

7-2018:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[56\]](#) Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside, pushed by the increasing pile of rubble. The result was that the walls peeled off and separated away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[\[57\]](#) Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[\[14\]](#)

no image

7-2018:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[45\]](#) Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside, pushed by the increasing pile of rubble. The result was that the walls peeled off and separated away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[\[46\]](#) Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[\[42\]](#)

12-2017:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[57\]](#) also called "Pancaking".[\[58\]](#) Once the collapse initiated, the mass of failing floors

overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside, pushed by the increasing pile of rubble. The result was that the walls peeled off and separated away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[59] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[14]

11-2016:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#),[57] also called "Pancaking".[58] Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside pushed by the increasing pile of rubble. The result was the walls peeling off and separating away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[59] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[14]

8-2016:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#),[57] also called "Pancaking".[58] Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside pushed by the increasing pile of rubble. The result was the walls peeling off and separating away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[59] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed.[14]

12-2015:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#),[54] also called "Pancaking".[55] Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the

sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside pushed by the increasing pile of rubble. The result was the walls peeling off and separating away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.[56] Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed themselves.[14]

9-2015:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).<sup>[53]</sup> Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside pushed by the increasing pile of rubble. The result was the walls peeling off and separating away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.<sup>[54]</sup> Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed themselves.<sup>[13]</sup>

7-2014:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).<sup>[52]</sup> Once the collapse initiated, the mass of failing floors overwhelmed the floors below, causing a progressive series of floor failures which accelerated as the sequence progressed. Soon, large portions of the perimeter columns and possibly the cores were left without any lateral support, causing them to fall laterally towards the outside pushed by the increasing pile of rubble. The result was the walls peeling off and separating away from the buildings by a large distance (about 500 feet in some cases), hitting other neighboring buildings. Some connections broke as the bolts snapped, leaving many panels randomly scattered.<sup>[53]</sup> Significant parts of the naked cores (about 60 stories for the North Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed themselves.<sup>[12]</sup>

12-2013:

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Tower and 40 for the South Tower) remained standing for a few seconds before they also collapsed themselves.[\[12\]](#)

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4-2012:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).[\[51\]](#) In the case of both towers, the top section tilted towards the face that had buckled, behaving largely as a solid block separate from the rest of the building. It fell at least one story in freefall and impacted the lower sections with a force equivalent to over thirty times its own weight. This was sufficient to buckle the columns of the story immediately below it; the block then fell freely through the distance of another story. Total collapse was now unavoidable as the process repeated through the entire height of the lower sections. The force of each impact was also much greater than the horizontal momentum of the section, which kept the tilt from increasing significantly before the falling section reached the ground. It remained intact throughout the collapse, with its center of gravity within the building's footprint. After crushing the lower section of the building, it was itself crushed when it hit the ground.[\[51\]](#)

7-2011:

The collapse of the World Trade Center has been called "the most infamous paradigm" of [progressive collapse](#).<sup>[30]</sup> In the case of both towers, the top section tilted towards the face that had buckled, behaving largely as a solid block separate from the rest of the building. It fell at least one story in freefall and impacted the lower sections with a force equivalent to over thirty times its own weight. This was sufficient to buckle the columns of the story immediately below it; the block then fell freely through the distance of another story. Total collapse was now unavoidable as the process repeated through the entire height of the lower sections. The force of each impact was also much greater than the horizontal momentum of the section, which kept the tilt from increasing significantly before the falling section reached the ground. It remained intact throughout the collapse, with its center of gravity within the building's footprint. After crushing the lower section of the building, it was itself crushed when it hit the ground.<sup>[30]</sup>

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12-2010:

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12-2009:

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11-2009:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#), shows that the first fragments of the outer walls of the collapsed North Tower struck the ground 9 seconds after the collapse started, and parts of the South Tower after 11 seconds. The lower portions of both buildings' cores (60 stories of WTC 1 and 40 stories of WTC 2) remained standing for up to 25 seconds after the start of the initial collapse before they too collapsed. These times are approximate because dust obscured the view.<sup>[13][62]</sup>

An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb, <sup>[30]</sup> crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near-free-fall speed.<sup>[63]</sup>

11-2009: nothing, no section

Missing

9-2009:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#), shows that the first fragments of the outer walls of the collapsed North Tower struck the ground 9 seconds after the collapse started, and parts of the South Tower after 11 seconds. The lower portions of both buildings' cores (60 stories of WTC 1 and 40 stories of WTC 2) remained standing for up to 25 seconds after the start of the initial collapse before they too collapsed. These times are approximate because dust obscured the view.[\[12\]](#)[\[60\]](#)

An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb, [\[28\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near-free-fall speed.[\[61\]](#)

4-2009:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#) shows that the first fragments of the outer walls of the collapsed north tower struck the ground 9 seconds after the collapse started, and parts of the south tower after 11 seconds. The lower portions of both buildings cores (60 stories of WTC 1 and 40 stories of WTC 2) remained standing for up to 25 seconds after the start of the initial collapse before they too collapsed. These times are approximate because dust obscured the view.[\[12\]](#)[\[57\]](#)

An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb, [\[28\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near free-fall speed.[\[58\]](#)

12-2008:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#) shows that the first fragments of the outer walls of the collapsed north tower struck the ground 9 seconds after the collapse started, and parts of the south tower after 11 seconds. The lower portions of both buildings cores (60 stories of WTC 1 and 40 stories of WTC 2) remained standing for up to 25 seconds after the start of the initial collapse before they too collapsed. These times are approximate because dust obscured the view.[\[12\]](#)[\[57\]](#)

The NIST report analyzes the failure mechanism in detail. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of

magnitude the amount of energy that the lower story could absorb,[\[29\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near free-fall speed.[\[58\]](#)

8-2008:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#) shows that the first fragments of the outer walls of the collapsed north tower struck the ground 9 seconds after the collapse started, and parts of the south tower after 11 seconds. The cores of the buildings began to fall 15 to 25 seconds after the initial start of the collapse. These times are approximate because dust obscured the view.[\[7\]\[18\]](#)

The NIST report analyzes the failure mechanism in detail. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb,[\[19\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near free-fall speed.[\[20\]](#)

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It is interesting to note that an apple dropped from the 110th story of WTC 1 or 2 would hit the ground in 9.2 seconds in a vacuum; two seconds longer than the recorded collapse time. This indicates that Both WTC 1 and 2 (as well as 7) fell with only air resistance. This implies that the buildings went from having the properties of steel to having the properties of air. Which begs the question: what would cause the buildings to suddenly have the properties of air?

10-2008:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#) shows that the first fragments of the outer walls of the collapsed north tower struck the ground 9 seconds after the collapse started, and parts of the south tower after 11 seconds. The lower portions of both buildings cores (60 stories of WTC 1 and 40 stories of WTC 2) remained standing for up to 25 seconds after the start of the initial collapse before they too collapsed. These times are approximate because dust obscured the view.[\[7\]\[31\]](#)

The NIST report analyzes the failure mechanism in detail. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb,[\[32\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near free-fall speed.[\[33\]](#)

8-2008:

Analysis of video footage capturing the initial collapse and analysis of seismic data from [Palisades, New York](#) shows that the first fragments of the outer walls of the collapsed north tower struck the ground 9 seconds after the collapse started, and parts of the south tower after 11 seconds. The cores of the buildings began to fall 15 to 25 seconds after the initial start of the collapse. These times are approximate because dust obscured the view.[\[7\]\[18\]](#)

The NIST report analyzes the failure mechanism in detail. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb,[\[19\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at near free-fall speed.[\[20\]](#)

4-2008:

Enormous advancing dust clouds obscured the collapses, making it impossible to calculate the collapse times through visual evidence, but analysis of seismic data from the nearby [Lamont-Doherty Earth Observatory](#) at [Columbia University](#) shows that the north tower collapsed in 12.74 seconds, or 57.7% longer than free fall, and that the duration of the south tower collapse was 10.52 seconds, or 42% longer than free fall.[\[25\]](#)

While the NIST report analyzes the initial failure mechanism in detail, it does not address the subsequent total collapse of the WTC towers. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb,[\[26\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at an ever-increasing pace. While it is the most widely held view among engineers,[\[27\]](#) it has been criticized for ignoring the resistance of the underlying structure, which may have slowed a progressive collapse much more dramatically and even prevented it altogether.[\[28\]](#)

1-2008:

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12-2007:

Enormous advancing dust clouds obscured the collapses, making it impossible to calculate the collapse times through visual evidence, but analysis of seismic data from the nearby [Lamont-Doherty Earth Observatory](#) at [Columbia University](#) shows that the north tower collapsed in 12.73 seconds, or 57.7% longer than free fall, and that the duration of the south tower collapse was 10.53 seconds, or 42% longer than free fall.[\[20\]](#)

While the NIST report analyzes the initial failure mechanism in detail, it does not address the subsequent total collapse of the WTC towers. An early analysis explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb,[\[21\]](#) crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at an ever-increasing pace. While it is the most widely held view among engineers,[\[22\]](#) it has been criticized for ignoring the resistance of the underlying structure, which may have slowed a progressive collapse much more dramatically and even prevented it altogether.[\[23\]](#)

10-2007:

While the NIST report analyzes the initial failure mechanism in detail, it does not address the subsequent total collapse of the WTC towers. An early analysis[\[26\]](#) explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb, crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at an ever-increasing pace. It is the most widely held view among engineers[\[27\]](#).

Further research is focused on understanding why the buildings were so completely destroyed and why the collapses took place at nearly free-fall speed.[28] Other research suggests that a progressive collapse would be much slower than the observed near-free-fall speed of the actual collapses.[29]

10-2007:

While the NIST report analyzes the initial failure mechanism in detail, it does not address the subsequent total collapse of the WTC towers. An early analysis[20] explains that the kinetic energy of the upper portion of the building falling onto the story below exceeded by an order of magnitude the amount of energy that the lower story could absorb, crushing it and adding to the kinetic energy. This scenario repeated with each successive story, crushing the entire tower at an ever-increasing pace. It is the most widely held view among engineers[21].

Enormous advancing dust clouds obscured the collapses, making it impossible to calculate the collapse times through visual evidence, but analysis of seismic data from the nearby [Lamont-Doherty Earth Observatory](#) at [Columbia University](#) shows that the north tower collapsed in 12.73 seconds, or 57.7% longer than free fall, and that the duration of the south tower collapse was 10.53 seconds, or 42% longer than free fall.[22] These calculations agree with mathematical models of the collapses published in the engineering literature.[22][23]

9-2007:

Once the collapse was initiated, the enormous weight of the portion of the towers above the impact areas overwhelmed the load bearing capacity of the structures beneath them. This was argued in a paper in the days immediately after the attacks by [Zdeněk Bažant](#) and Yong Zhou.[23] Their analysis of global collapse allowed NIST to concentrate their efforts on the events that brought the structure to the point of global collapse. NIST proposed an explanation for the ejections of dust from the windows.

7-2007:

Once the collapse was initiated, the enormous weight of the portion of the towers above the impact areas overwhelmed the load bearing capacity of the structures beneath them. This was argued in a paper in the days immediately after the attacks by Zdenek P. Bazant and Yong Zhou.[21] Their analysis of global collapse allowed NIST to concentrate their efforts on the events that brought the structure to the point of global collapse. NIST proposed an explanation for the ejections of dust from the windows.

5-2007:

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in the days immediately after the attacks by Zdenek P. Bazant and Yong Zhou.[\[16\]](#) Their analysis of global collapse allowed NIST to concentrate their efforts on the events that brought the structure to the point of global collapse, and NIST did not study the progress of the global collapse at all.[\[17\]](#) NIST did propose an explanation for the ejections of dust from the windows, however. As the floors above the impact point were relatively undamaged (save for fire), the upper portion fell and smashed through the lower floors as a unit. The air that was compressed ahead of the falling section was responsible for the ejections of dust and debris through the windows.[\[18\]](#)

4\_2007:

Once the collapse was initiated, the enormous weight of the portion of the towers above the impact areas overwhelmed the load bearing capacity of the structures beneath them. This was argued in a paper in the days immediately after the attacks by Zdenek P. Bazant and Yong Zhou.[\[16\]](#) Their analysis of global collapse allowed NIST to concentrate their efforts on the events that brought the structure to the point of global collapse, and NIST did not study the progress of the global collapse at all.[\[17\]](#) NIST did propose an explanation for the ejections of dust from the windows, however. As the floors above the impact point were relatively undamaged (save for fire), the upper portion fell and smashed through the lower floors as a unit. The air that was compressed ahead of the falling section was responsible for the ejections of dust and debris through the windows.[\[18\]](#)

3-2007:

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2-2007:

Once the collapse was initiated, the enormous weight of the portion of the towers above the impact areas overwhelmed the load bearing capacity of the structures beneath them. This was argued in a paper in the days immediately after the attacks by Zdenek P. Bazant and Yong Zhou.[\[15\]](#) Their analysis of global collapse allowed NIST to concentrate their efforts on the events that brought the structure to the point of global collapse, and NIST did not study the progress of the global collapse at all.[\[16\]](#) NIST did propose an explanation for the ejections of dust from the windows, however. As the floors above the impact point were relatively undamaged (save for fire), the upper portion fell and smashed through the lower floors as a unit. The air that was compressed ahead of the falling section was responsible for the ejections of dust and debris through the windows.[\[17\]](#)

The section called 'Total progressive collapse' didn't exist before this point.

## **THE SECTION "COLLAPSE MECHANISM"**

The section existed from July, 2006 to July, 2007. I do not reproduce entire sections below. I only reproduce anything related to the Twin Towers collapse progression modes.

7-2007:

"After collapse ensued, the total collapse of the towers was inevitable due to the enormous weight of the towers above the impact areas. "

same 12-2006

same 7-2006

## **THE SECTION "COLLAPSE OF THE TWO TOWERS"**

3-2006:

The two towers collapsed in markedly different ways which may indicate that there were two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse, then pulverized into dust in mid-air, and the tower then continued straight down.

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1-2006:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse. seconds of the collapse, then pulverized into dust in mid-air, and the tower then continued straight down.

12-2005:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 30 or so stories of the building remained intact for the first few seconds of the collapse, toppling over at an angle. In the next few seconds, this giant cube appeared to lose angular momentum and disintegrate.

10-2005:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

7-2005:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

3-2005:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

**ALL EARLIER MATERIAL ON THE TWIN TOWERS COLLAPSE PROGRESSION MODES:**

12-2004:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

7-2004:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

6-2004:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

5-2004:

The two towers collapsed in markedly different ways, indicating that there were in fact two modes of failure. The north tower collapsed directly downwards, "pancaking" in on itself, while the south tower fell at an angle during which the top 20 or so stories of the building remained intact for the first few seconds of the collapse.

All direct quotes from Wikipedia in this document constitute the most accurate and detailed list of Wikipedia (mis)representations of the Twin Towers collapse progression modes from 2004 to the present currently available to the public.