buteTion

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | [**Used By**](http://www.graphviz.org/doc/info/attrs.html#h:uses) | **Type** | **Default** | **Minimum** | **Notes** | **Implemented** |
| [Damping](http://www.graphviz.org/doc/info/attrs.html" \l "d:Damping) | G | double | 0.99 | 0.0 | neato only | N/A |
| [K](http://www.graphviz.org/doc/info/attrs.html" \l "d:K) | GC | double | 0.3 | 0 | sfdp, fdp only | - |
| [URL](http://www.graphviz.org/doc/info/attrs.html" \l "d:URL) | ENGC | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | <none> |  | svg, postscript, map only | **ENGC** |
| [arrowhead](http://www.graphviz.org/doc/info/attrs.html" \l "d:arrowhead) | E | [arrowType](http://www.graphviz.org/doc/info/attrs.html#k:arrowType) | normal |  |  | **E** |
| [arrowsize](http://www.graphviz.org/doc/info/attrs.html" \l "d:arrowsize) | E | double | 1.0 | 0.0 |  | **E** |
| [arrowtail](http://www.graphviz.org/doc/info/attrs.html" \l "d:arrowtail) | E | [arrowType](http://www.graphviz.org/doc/info/attrs.html#k:arrowType) | normal |  |  | **E** |
| [aspect](http://www.graphviz.org/doc/info/attrs.html" \l "d:aspect) | G | [aspectType](http://www.graphviz.org/doc/info/attrs.html#k:aspectType) |  |  | dot only | **G** |
| [bb](http://www.graphviz.org/doc/info/attrs.html" \l "d:bb) | G | [rect](http://www.graphviz.org/doc/info/attrs.html#k:rect) |  |  | write only | N/A |
| [bgcolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:bgcolor) | GC | [color](http://www.graphviz.org/doc/info/attrs.html#k:color) | <none> |  |  | **GC** |
| [center](http://www.graphviz.org/doc/info/attrs.html" \l "d:center) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | **G** |
| [charset](http://www.graphviz.org/doc/info/attrs.html" \l "d:charset) | G | string | "UTF-8" |  |  | - |
| [clusterrank](http://www.graphviz.org/doc/info/attrs.html" \l "d:clusterrank) | G | [clusterMode](http://www.graphviz.org/doc/info/attrs.html#k:clusterMode) | local |  | dot only |  |
| [color](http://www.graphviz.org/doc/info/attrs.html" \l "d:color) | ENC | [color](http://www.graphviz.org/doc/info/attrs.html#k:color)  [colorList](http://www.graphviz.org/doc/info/attrs.html#k:colorList) | black |  |  | **ENC**  TODO : colorList |
| [colorscheme](http://www.graphviz.org/doc/info/attrs.html" \l "d:colorscheme) | ENCG | string | "" |  |  | - |
| [comment](http://www.graphviz.org/doc/info/attrs.html" \l "d:comment) | ENG | string | "" |  |  | **ENG** |
| [compound](http://www.graphviz.org/doc/info/attrs.html" \l "d:compound) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  | dot only | - |
| [concentrate](http://www.graphviz.org/doc/info/attrs.html" \l "d:concentrate) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | **G** |
| [constraint](http://www.graphviz.org/doc/info/attrs.html" \l "d:constraint) | E | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | true |  | dot only | **E** |
| [decorate](http://www.graphviz.org/doc/info/attrs.html" \l "d:decorate) | E | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | **E** |
| [defaultdist](http://www.graphviz.org/doc/info/attrs.html" \l "d:defaultdist) | G | double | 1+(avg. len)\*sqrt(|V|) | epsilon | neato only | N/A |
| [dim](http://www.graphviz.org/doc/info/attrs.html" \l "d:dim) | G | int | 2 | 2 | sfdp, fdp, neato only | N/A |
| [dimen](http://www.graphviz.org/doc/info/attrs.html" \l "d:dimen) | G | int | 2 | 2 | sfdp, fdp, neato only | N/A |
| [dir](http://www.graphviz.org/doc/info/attrs.html" \l "d:dir) | E | [dirType](http://www.graphviz.org/doc/info/attrs.html#k:dirType) | forward(directed) none(undirected) |  |  | **E** |
| [diredgeconstraints](http://www.graphviz.org/doc/info/attrs.html" \l "d:diredgeconstraints) | G | string [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | False |  | neato only | N/A |
| [distortion](http://www.graphviz.org/doc/info/attrs.html" \l "d:distortion) | N | double | 0.0 | -100.0 |  | **N** |
| [dpi](http://www.graphviz.org/doc/info/attrs.html" \l "d:dpi) | G | double | 96.0 0.0 |  | svg, bitmap output only | - |
| [edgeURL](http://www.graphviz.org/doc/info/attrs.html" \l "d:edgeURL) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | **E** |
| [edgehref](http://www.graphviz.org/doc/info/attrs.html" \l "d:edgehref) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | N/A (edgeURL) |
| [edgetarget](http://www.graphviz.org/doc/info/attrs.html" \l "d:edgetarget) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | <none> |  | svg, map only | **E** |
| [edgetooltip](http://www.graphviz.org/doc/info/attrs.html" \l "d:edgetooltip) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, cmap only | **E** |
| [epsilon](http://www.graphviz.org/doc/info/attrs.html" \l "d:epsilon) | G | double | .0001 \* # nodes(mode == KK) .0001(mode == major) |  | neato only | N/A |
| [esep](http://www.graphviz.org/doc/info/attrs.html" \l "d:esep) | G | double [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) | +3 |  | not dot | - |
| [fillcolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:fillcolor) | NC | [color](http://www.graphviz.org/doc/info/attrs.html#k:color) | lightgrey(nodes) black(clusters) |  |  | **NC** |
| [fixedsize](http://www.graphviz.org/doc/info/attrs.html" \l "d:fixedsize) | N | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | **N** |
| [fontcolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:fontcolor) | ENGC | [color](http://www.graphviz.org/doc/info/attrs.html#k:color) | black |  |  | **ENGC** |
| [fontname](http://www.graphviz.org/doc/info/attrs.html" \l "d:fontname) | ENGC | string | "Times-Roman" |  |  | **ENGC** |
| [fontnames](http://www.graphviz.org/doc/info/attrs.html" \l "d:fontnames) | G | string | "" |  | svg only | - |
| [fontpath](http://www.graphviz.org/doc/info/attrs.html" \l "d:fontpath) | G | string | system-dependent |  |  | - |
| [fontsize](http://www.graphviz.org/doc/info/attrs.html" \l "d:fontsize) | ENGC | double | 14.0 | 1.0 |  | **ENGC** |
| [group](http://www.graphviz.org/doc/info/attrs.html" \l "d:group) | N | string | "" |  | dot only | **N** |
| [headURL](http://www.graphviz.org/doc/info/attrs.html" \l "d:headURL) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | **E** |
| [headclip](http://www.graphviz.org/doc/info/attrs.html" \l "d:headclip) | E | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | true |  |  | **E** |
| [headhref](http://www.graphviz.org/doc/info/attrs.html" \l "d:headhref) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | N/A (headURL) |
| [headlabel](http://www.graphviz.org/doc/info/attrs.html" \l "d:headlabel) | E | [lblString](http://www.graphviz.org/doc/info/attrs.html#k:lblString) | "" |  |  | **E** |
| [headport](http://www.graphviz.org/doc/info/attrs.html" \l "d:headport) | E | [portPos](http://www.graphviz.org/doc/info/attrs.html#k:portPos) | center |  |  | - |
| [headtarget](http://www.graphviz.org/doc/info/attrs.html" \l "d:headtarget) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | <none> |  | svg, map only | **E** |
| [headtooltip](http://www.graphviz.org/doc/info/attrs.html" \l "d:headtooltip) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, cmap only | **E** |
| [height](http://www.graphviz.org/doc/info/attrs.html" \l "d:height) | N | double | 0.5 | 0.02 |  | **N** |
| [href](http://www.graphviz.org/doc/info/attrs.html" \l "d:href) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, postscript, map only | - |
| [id](http://www.graphviz.org/doc/info/attrs.html" \l "d:id) | GNE | [lblString](http://www.graphviz.org/doc/info/attrs.html#k:lblString) | "" |  | svg, postscript, map only | - |
| [image](http://www.graphviz.org/doc/info/attrs.html" \l "d:image) | N | string | "" |  |  | **N** |
| [imagescale](http://www.graphviz.org/doc/info/attrs.html" \l "d:imagescale) | N | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool)  string | false |  |  | **N** |
| [label](http://www.graphviz.org/doc/info/attrs.html" \l "d:label) | ENGC | [lblString](http://www.graphviz.org/doc/info/attrs.html#k:lblString) | "\N" (nodes) "" (otherwise) |  |  | **ENGC** |
| [labelURL](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelURL) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | - |
| [labelangle](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelangle) | E | double | -25.0 | -180.0 |  | **E** |
| [labeldistance](http://www.graphviz.org/doc/info/attrs.html" \l "d:labeldistance) | E | double | 1.0 | 0.0 |  | **E** |
| [labelfloat](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelfloat) | E | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | False |  |  | **E** |
| [labelfontcolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelfontcolor) | E | [color](http://www.graphviz.org/doc/info/attrs.html#k:color) | black |  |  | **E** |
| [labelfontname](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelfontname) | E | string | "Times-Roman" |  |  | **E** |
| [labelfontsize](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelfontsize) | E | double | 14.0 | 1.0 |  | **E** |
| [labelhref](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelhref) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | - |
| [labeljust](http://www.graphviz.org/doc/info/attrs.html" \l "d:labeljust) | GC | string | "c" |  |  | **GC** |
| [labelloc](http://www.graphviz.org/doc/info/attrs.html" \l "d:labelloc) | GC | string | "t"(clusters) "b"(root graphs) |  |  | **GC** |
| [labelloc](http://www.graphviz.org/doc/info/attrs.html" \l "dd:labelloc) | N | string | "c"(clusters) |  |  | **N** |
| [labeltarget](http://www.graphviz.org/doc/info/attrs.html" \l "d:labeltarget) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | <none> |  | svg, map only | - |
| [labeltooltip](http://www.graphviz.org/doc/info/attrs.html" \l "d:labeltooltip) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, cmap only | - |
| [landscape](http://www.graphviz.org/doc/info/attrs.html" \l "d:landscape) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | X (Rotate) |
| [layer](http://www.graphviz.org/doc/info/attrs.html" \l "d:layer) | EN | [layerRange](http://www.graphviz.org/doc/info/attrs.html#k:layerRange) | "" |  |  | - |
| [layers](http://www.graphviz.org/doc/info/attrs.html" \l "d:layers) | G | [layerList](http://www.graphviz.org/doc/info/attrs.html#k:layerList) | "" |  |  | - |
| [layersep](http://www.graphviz.org/doc/info/attrs.html" \l "d:layersep) | G | string | " :\t" |  |  | - |
| [layout](http://www.graphviz.org/doc/info/attrs.html" \l "d:layout) | G | string | "" |  |  | X (N/A) |
| [len](http://www.graphviz.org/doc/info/attrs.html" \l "d:len) | E | double | 1.0(neato) 0.3(fdp) |  | fdp, neato only | X (N/A) |
| [levels](http://www.graphviz.org/doc/info/attrs.html" \l "d:levels) | G | int | MAXINT | 0.0 | sfdp only | - |
| [levelsgap](http://www.graphviz.org/doc/info/attrs.html" \l "d:levelsgap) | G | double | 0.0 |  | neato only | - |
| [lhead](http://www.graphviz.org/doc/info/attrs.html" \l "d:lhead) | E | string | "" |  | dot only | - |
| [lp](http://www.graphviz.org/doc/info/attrs.html" \l "d:lp) | EGC | [point](http://www.graphviz.org/doc/info/attrs.html#k:point) |  |  | write only | - |
| [ltail](http://www.graphviz.org/doc/info/attrs.html" \l "d:ltail) | E | string | "" |  | dot only | - |
| [margin](http://www.graphviz.org/doc/info/attrs.html" \l "d:margin) | NG | double [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) | <device-dependent> |  |  | **NG** |
| [maxiter](http://www.graphviz.org/doc/info/attrs.html" \l "d:maxiter) | G | int | 100 \* # nodes(mode == KK) 200(mode == major) 600(fdp) |  | fdp, neato only | X (N/A) |
| [mclimit](http://www.graphviz.org/doc/info/attrs.html" \l "d:mclimit) | G | double | 1.0 |  | dot only | - |
| [mindist](http://www.graphviz.org/doc/info/attrs.html" \l "d:mindist) | G | double | 1.0 | 0.0 | circo only | X (N/A) |
| [minlen](http://www.graphviz.org/doc/info/attrs.html" \l "d:minlen) | E | int | 1 | 0 | dot only | **E** |
| [mode](http://www.graphviz.org/doc/info/attrs.html" \l "d:mode) | G | string | "major" |  | neato only | X (N/A) |
| [model](http://www.graphviz.org/doc/info/attrs.html" \l "d:model) | G | string | "shortpath" |  | neato only | X (N/A) |
| [mosek](http://www.graphviz.org/doc/info/attrs.html" \l "d:mosek) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  | neato only | X (N/A) |
| [nodesep](http://www.graphviz.org/doc/info/attrs.html" \l "d:nodesep) | G | double | 0.25 | 0.02 | dot only | **G** |
| [nojustify](http://www.graphviz.org/doc/info/attrs.html" \l "d:nojustify) | GCNE | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  | **GCNE** |
| [normalize](http://www.graphviz.org/doc/info/attrs.html" \l "d:normalize) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  | not dot | X (N/A) |
| [nslimit](http://www.graphviz.org/doc/info/attrs.html" \l "d:nslimit)  [nslimit1](http://www.graphviz.org/doc/info/attrs.html" \l "d:nslimit1) | G | double |  |  | dot only | X |
| [ordering](http://www.graphviz.org/doc/info/attrs.html" \l "d:ordering) | G | string | "" |  | dot only | **G** |
| [orientation](http://www.graphviz.org/doc/info/attrs.html" \l "d:orientation) | N | double | 0.0 | 360.0 |  | **N** |
| [orientation](http://www.graphviz.org/doc/info/attrs.html" \l "dd:orientation) | G | string | "" |  |  | X (Rotate) |
| [outputorder](http://www.graphviz.org/doc/info/attrs.html" \l "d:outputorder) | G | [outputMode](http://www.graphviz.org/doc/info/attrs.html#k:outputMode) | breadthfirst |  |  | **G** |
| [overlap](http://www.graphviz.org/doc/info/attrs.html" \l "d:overlap) | G | string [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | true |  | not dot | X (N/A) |
| [overlap\_scaling](http://www.graphviz.org/doc/info/attrs.html" \l "d:overlap_scaling) | G | double | -4 | -1.0e10 | prism only | X (N/A) |
| [pack](http://www.graphviz.org/doc/info/attrs.html" \l "d:pack) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool)  int | false |  | not dot | X (N/A) |
| [packmode](http://www.graphviz.org/doc/info/attrs.html" \l "d:packmode) | G | [packMode](http://www.graphviz.org/doc/info/attrs.html#k:packMode) | node |  | not dot | X (N/A) |
| [pad](http://www.graphviz.org/doc/info/attrs.html" \l "d:pad) | G | double [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) | 0.0555 (4 points) |  |  | **G** |
| [page](http://www.graphviz.org/doc/info/attrs.html" \l "d:page) | G | [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) |  |  |  | **G** |
| [pagedir](http://www.graphviz.org/doc/info/attrs.html" \l "d:pagedir) | G | [pagedir](http://www.graphviz.org/doc/info/attrs.html#k:pagedir) | BL |  |  | **G** |
| [pencolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:pencolor) | C | [color](http://www.graphviz.org/doc/info/attrs.html#k:color) | black |  |  | **C** |
| [penwidth](http://www.graphviz.org/doc/info/attrs.html" \l "d:penwidth) | CNE | double | 1.0 | 0.0 |  | **CNE** |
| [peripheries](http://www.graphviz.org/doc/info/attrs.html" \l "d:peripheries) | NC | int | shape default(nodes) 1(clusters) | 0 |  | **NC** |
| [pin](http://www.graphviz.org/doc/info/attrs.html" \l "d:pin) | N | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  | fdp, neato only | X (N/A) |
| [pos](http://www.graphviz.org/doc/info/attrs.html" \l "d:pos) | EN | [point](http://www.graphviz.org/doc/info/attrs.html#k:point)  [splineType](http://www.graphviz.org/doc/info/attrs.html#k:splineType) |  |  |  |  |
| [quadtree](http://www.graphviz.org/doc/info/attrs.html" \l "d:quadtree) | G | [quadType](http://www.graphviz.org/doc/info/attrs.html#k:quadType)  [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | "normal" |  | sfdp only | X (N/A) |
| [quantum](http://www.graphviz.org/doc/info/attrs.html" \l "d:quantum) | G | double | 0.0 | 0.0 |  |  |
| [rank](http://www.graphviz.org/doc/info/attrs.html" \l "d:rank) | S | [rankType](http://www.graphviz.org/doc/info/attrs.html#k:rankType) |  |  | dot only | **S** |
| [rankdir](http://www.graphviz.org/doc/info/attrs.html" \l "d:rankdir) | G | [rankdir](http://www.graphviz.org/doc/info/attrs.html#k:rankdir) | TB |  | dot only |  |
| [ranksep](http://www.graphviz.org/doc/info/attrs.html" \l "d:ranksep) | G | double | 0.5(dot) 1.0(twopi) | 0.02 | twopi, dot only |  |
| [ratio](http://www.graphviz.org/doc/info/attrs.html" \l "d:ratio) | G | double string |  |  |  | **G** |
| [rects](http://www.graphviz.org/doc/info/attrs.html" \l "d:rects) | N | [rect](http://www.graphviz.org/doc/info/attrs.html#k:rect) |  |  | write only | N/A |
| [regular](http://www.graphviz.org/doc/info/attrs.html" \l "d:regular) | N | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  |  |  |
| [remincross](http://www.graphviz.org/doc/info/attrs.html" \l "d:remincross) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | false |  | dot only |  |
| [repulsiveforce](http://www.graphviz.org/doc/info/attrs.html" \l "d:repulsiveforce) | G | double | 1.0 | 0.0 | sfdp only |  |
| [resolution](http://www.graphviz.org/doc/info/attrs.html" \l "d:resolution) | G | double | 96.0 0.0 |  | svg, bitmap output only |  |
| [root](http://www.graphviz.org/doc/info/attrs.html" \l "d:root) | GN | string [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | ""(graphs) false(nodes) |  | circo, twopi only | N/A |
| [rotate](http://www.graphviz.org/doc/info/attrs.html" \l "d:rotate) | G | int | 0 |  |  | **G** |
| [samehead](http://www.graphviz.org/doc/info/attrs.html" \l "d:samehead) | E | string | "" |  | dot only | **E** |
| [sametail](http://www.graphviz.org/doc/info/attrs.html" \l "d:sametail) | E | string | "" |  | dot only | **E** |
| [samplepoints](http://www.graphviz.org/doc/info/attrs.html" \l "d:samplepoints) | N | int | 8(output) 20(overlap and image maps) |  |  |  |
| [searchsize](http://www.graphviz.org/doc/info/attrs.html" \l "d:searchsize) | G | int | 30 |  | dot only |  |
| [sep](http://www.graphviz.org/doc/info/attrs.html" \l "d:sep) | G | double [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) | +4 |  | not dot |  |
| [shape](http://www.graphviz.org/doc/info/attrs.html" \l "d:shape) | N | [shape](http://www.graphviz.org/doc/info/attrs.html#k:shape) | ellipse |  |  | **N** |
| [shapefile](http://www.graphviz.org/doc/info/attrs.html" \l "d:shapefile) | N | string | "" |  |  | N/A (Deprecated) |
| [showboxes](http://www.graphviz.org/doc/info/attrs.html" \l "d:showboxes) | ENG | int | 0 | 0 | dot only |  |
| [sides](http://www.graphviz.org/doc/info/attrs.html" \l "d:sides) | N | int | 4 | 0 |  |  |
| [size](http://www.graphviz.org/doc/info/attrs.html" \l "d:size) | G | [pointf](http://www.graphviz.org/doc/info/attrs.html#k:pointf) |  |  |  |  |
| [skew](http://www.graphviz.org/doc/info/attrs.html" \l "d:skew) | N | double | 0.0 | -100.0 |  | **N** |
| [smoothing](http://www.graphviz.org/doc/info/attrs.html" \l "d:smoothing) | G | [smoothType](http://www.graphviz.org/doc/info/attrs.html#k:smoothType) | "none" |  | sfdp only | N/A |
| [sortv](http://www.graphviz.org/doc/info/attrs.html" \l "d:sortv) | GCN | int | 0 | 0 |  |  |
| [splines](http://www.graphviz.org/doc/info/attrs.html" \l "d:splines) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool)  string |  |  |  |  |
| [start](http://www.graphviz.org/doc/info/attrs.html" \l "d:start) | G | [startType](http://www.graphviz.org/doc/info/attrs.html#k:startType) | "" |  | fdp, neato only | N/A |
| [style](http://www.graphviz.org/doc/info/attrs.html" \l "d:style) | ENC | [style](http://www.graphviz.org/doc/info/attrs.html#k:style) |  |  |  | **ENC** |
| [stylesheet](http://www.graphviz.org/doc/info/attrs.html" \l "d:stylesheet) | G | string | "" |  | svg only |  |
| [tailURL](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailURL) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | **E** |
| [tailclip](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailclip) | E | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) | true |  |  | **E** |
| [tailhref](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailhref) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, map only | N/A (tailURL) |
| [taillabel](http://www.graphviz.org/doc/info/attrs.html" \l "d:taillabel) | E | [lblString](http://www.graphviz.org/doc/info/attrs.html#k:lblString) | "" |  |  | **E** |
| [tailport](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailport) | E | [portPos](http://www.graphviz.org/doc/info/attrs.html#k:portPos) | center |  |  |  |
| [tailtarget](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailtarget) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | <none> |  | svg, map only | **E** |
| [tailtooltip](http://www.graphviz.org/doc/info/attrs.html" \l "d:tailtooltip) | E | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, cmap only | **E** |
| [target](http://www.graphviz.org/doc/info/attrs.html" \l "d:target) | ENGC | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString)  string | <none> |  | svg, map only |  |
| [tooltip](http://www.graphviz.org/doc/info/attrs.html" \l "d:tooltip) | NEC | [escString](http://www.graphviz.org/doc/info/attrs.html#k:escString) | "" |  | svg, cmap only |  |
| [truecolor](http://www.graphviz.org/doc/info/attrs.html" \l "d:truecolor) | G | [bool](http://www.graphviz.org/doc/info/attrs.html#k:bool) |  |  | bitmap output only |  |
| [vertices](http://www.graphviz.org/doc/info/attrs.html" \l "d:vertices) | N | [pointfList](http://www.graphviz.org/doc/info/attrs.html#k:pointfList) |  |  | write only |  |
| [viewport](http://www.graphviz.org/doc/info/attrs.html" \l "d:viewport) | G | [viewPort](http://www.graphviz.org/doc/info/attrs.html#k:viewPort) | "" |  |  |  |
| [voro\_margin](http://www.graphviz.org/doc/info/attrs.html" \l "d:voro_margin) | G | double | 0.05 | 0.0 | not dot |  |
| [weight](http://www.graphviz.org/doc/info/attrs.html" \l "d:weight) | E | double | 1.0 | 0(dot) 1(neato,fdp,sfdp) |  |  |
| [width](http://www.graphviz.org/doc/info/attrs.html" \l "d:width) | N | double | 0.75 | 0.01 |  | **N** |
| [z](http://www.graphviz.org/doc/info/attrs.html" \l "d:z) | N | double | 0.0 | -MAXFLOAT -1000 |  |  |